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UNITED STATES OF AMERICA.

# NATURE

OF

# AN UNIVERSE OF LIFE.

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By LEONIDAS SPRATT,

JACKSONVILLE, FLA.

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# TABLE OF CONTENTS.

To man there are two questions, the one, whence does he come? and the other, whither does he go? To both of which this proposition of "Nature of An Universe of Life" gives the answer. And that he comes from a being finite of the word of God in force; and goes to the man possible of a civilization possible under conditions existing at this earth.

Assuming, provisionally, that man is of nature, as is the earth, plant or animal, it shows that nature is of the resolutions of such really in force, and that so, also, is man of nature, and so of this word of God.

And assuming, provisionally also, that every life in nature is to its most and best simply as the end of its being under the conditions possible, it shows that such, also, is the end of man.

And to that nature, including man, is in resolution of such reality in force, there is this argument.


*Page*

CHAPTER I.—That there is an essential being finite of beings infinite, of which are the moments of force and the molecules and compounds of matter inorganic and organic; and of which in a process of its being, to be termed evo-involution, there are stars, sun, earth, plant and animal, from the universe to man ..... 9

CHAPTER II.—That this is not accepted from being too abstract, and from its not being seen that there is infinite being finite; or that this is force; or that of this is matter or mind. But that we are forced to accept it in accepting that there is cause to consequence and consequence to cause, there being no cause of force or matter inorganic or organic, or in earth, plant, animal or man, but as that cause be infinite being becoming finite..... 14

CHAPTER III.—That the indisposition to acceptance is shown in the failure of an earlier effort to present this theory, of which there was neither acceptance or comment..... 19

CHAPTER IV.—Such nature of such life probable, in that it is probable there are being finite and the word of God, and force and life, and nature and consciousness of these, the neither of which were possible but as it be in cause or consequence of such nature of such life..... 22

Page

CHAPTER V.—And such nature of such life certain, as it be certain that there is being finite, or the word of God, or force, or space, or matter, or life, or nature, or of nature the universe, or star, or sun, or earth, or plant, or animal, or man, or the mind of man no one of which were possible but as there be such nature of such life..... 27

CHAPTER VI.—Of being finite there were life and nature..... 29

CHAPTER VII.—Of the word of God there were life and nature.. 33

CHAPTER VIII.—Of force simply there were life and nature..... 35

CHAPTER IX.—Nature not possible but of force..... 37

CHAPTER X.—The phenomena of nature those of force in that every phenomenon of force is a phenomenon of nature, whether in the moment or medium of force, or the molecule, or compound of matter, inorganic or organic, or earth, plant, animal or man, or the mind of man..... 39

CHAPTER XI.—Of nature, also, man..... 53

CHAPTER XII.—There is reality such life as there be that not possible without it. And such is being finite..... 55

CHAPTER XIII.—And such the word of God..... 60

CHAPTER XIV.—And such force..... 62

CHAPTER XV.—And such space, matter, life and nature..... 65

CHAPTER XVI.—And such the universe..... 71

CHAPTER XVII.—And such the stars..... 71

CHAPTER XVIII.—And such the sun..... 72

CHAPTER XIX.—And such the earth..... 73

CHAPTER XX.—And such the plant..... 73

CHAPTER XXI.—And such the animal..... 75

CHAPTER XXII.—And such man..... 76

CHAPTER XXIII.—And such the mind of man..... 78

CHAPTER XXIV.—There is being finite..... 80

CHAPTER XXV.—There is the word of God..... 82

CHAPTER XXV.—There is force..... 84

CHAPTER XXVI.—There are space, matter, life and nature..... 85

CHAPTER XXVII.—There is an universe of nature..... 90

CHAPTER XXVIII.—There are the stars of nature..... 93

CHAPTER XXIX.—There is the sun of nature..... 96

CHAPTER XXX.—There is a space center to the sun..... 99

CHAPTER XXXI.—Its atmosphere of metals and metallic oxides.. 102

*Page*

CHAPTER XXXII.—Its four inner plants ..... 107

CHAPTER XXXIII.—Its asteroids ..... 112

CHAPTER XXXIV.—Its outer planets ..... 115

CHAPTER XXXV.—Its comets ..... 116

CHAPTER XXXVI.—The earth also of nature ..... 118

CHAPTER XXXVII.—A space center to the earth ..... 121

CHAPTER XXXVIII.—About this its stratum of platano metallic matter ..... 125

CHAPTER XXXIX.—About this its stratum of Archean rocks .... 127

CHAPTER XL.—Upon this the water stratum ..... 132

CHAPTER XLI.—About this the atmospheric stratum ..... 135

CHAPTER XLII.—About this the meteorites and moon ..... 136

CHAPTER XLIII.—There is the plant, also, of nature ..... 140

CHAPTER XLIV.—And the animal of nature ..... 146

CHAPTER XLV.—And man of nature ..... 153

CHAPTER XLVI.—There was of nature the two-footed and two-handed animal ..... 156

CHAPTER XLVII.—Of such animal there was agamic man ..... 158

CHAPTER XLVIII.—Of agamic there was polygamic man ..... 163

CHAPTER XLIX.—Of polygamic there was monogamic man ..... 168

CHAPTER L.—Who is not only not supernatural but not fully natural, in not being able to fulfill his mission ..... 174

CHAPTER LI.—In that, not now the man possible, he is not susceptive of the coming man ..... 177

CHAPTER LII.—Nor can it perpetuate its state of manhood man .. 183

CHAPTER LIII.—And of nature, also, mind in man. And so reality of the word of God in force and a nature of that reality throughout the universe, and man of that nature at this earth, who thus, with the animal, plant, earth and stars, is of an instant infinite being finite of the word of God in force ..... 192

## PART SECOND.

CHAPTER LIV.—And such the source of man that the end of man is in the man possible. And him the most man possible and the best man possible that he be his most. And such the end of man physically, that the moral end of man is in a civilization, of the souls of bettered man, susceptive of such man possible ..... 195

*Page*

CHAPTER LV.—That man is such man of such civilization possible but of unions of unequal human races in relations of inequality... ..... ..... 200

CHAPTER LVI.—That there is neither reason or experience to show that there cannot be such unions, or that of such unions there cannot be the man possible. And, the possible true, there is no reason or experience to show or suggest that man in being finite, however it be in purpose of the infinite, existing but to his end in the man possible, is of other being than that finite of infinities of which are the other beings of the universe..... .... .....204

# Dedicated to the Memory of Dr. John Gorrie.

---

In 1843, I met at Apalachicola, Florida, DR. JOHN GORRIE, then intent on the development of a machine for the making of ice. Soon after there came Dr. Alvan W. Chapman, as intent on the botany of Florida, while I was vaguely ruminating the theory presented in this book. Dr. Chapman, the eldest, still alive, has been for years before the public in his standard work on botany; and the ice machine of Dr. Gorrie is in general use to the fortunes of many and the general good.

But, inquiring of manufactures here, I found that not one of them had heard the name of Dr. Gorrie. His theory was that in applying the mechanical pressure to an elastic fluid, such as is the atmospheric air, a heat is expressed, which, when re-expanding, it recovers, and from the substances, liquid, or other, with which it is in contact; and in practice of this he produced ice in abundance, but at a cost too great for common use—the value of cold produced being less than the cost of the mechanical force to its production. A gaseous medium, such as ammonia, liquifiable under a pressure of three atmospheres, and of its own motion resuming its gaseous state—the pressure removed—with all the heat to sustain it as a gas, being necessary. And this medium solved the problem of commercial ice. But this medium he did not discover, though groping up to it, until—his health broken and his fortune spent—the war came on, during which he died, realizing thus the dread often expressed, that while his was an inven-

tion destined to incalculable good to others, it would be of no good to him, from his inability to turn the point of making it profitable. When the war was over the application of ammonia had been made, but it was attributed to a Frenchman named "Corrie," to whom is now the credit of the entire invention. This may be a corruption of the name Gorrie; and Dr. Gorrie may yet be the person meant. But, so or not, his name is not known in connection with the work to which he gave his fortune and life. And as I was with him through many of his years of travail; and as my theory dated from, and may have been inspired by, his, I am pleased to give to his the little recognition mine may be able to achieve.

THE AUTHOR.

# PREFACE.

This work of "Nature of An Universe of Life" is singular, perhaps, in that while it presents a multitude of propositions, the every one of which is apt to be disputed, they are all dependent on a single proposition, the truth of which is as susceptive of proof as is that of any one in physics.

It proposes that there is an universe of life; that of this there is nature; and that of this at this earth is man; and that to man, therefore, there is nature of that universe of life contingent, only, on the truth that there be such universe. It proposes that there is infinite being finite, first apparent to us as being finite, in heat, light, electricity and magnetism; that this finite of infinites is the first intelligible word of God to us; that as such it is universal and the one exclusive being of that universe. And, as such, that it is the universal cause of universal consequence: and the universal life of universal nature. And that it is the life of the line of that nature through stars, sun, earth, plant and animal, from the vital axis of that universe, to the life of man in nature at this earth. And, while it will be questioned, perhaps, that there is infinite being finite; or that this is the word of God; or that this is force; or that the physical forces are the same and but the phenomenal phases of one essential being finite; or that this is that found in ultimate analysis of matter; or that, of this in matter, there are the stars, sun, earth, plant, animal and man, and the conscience and mind of man, perceptive and reflective of them. Yet if it be true that there is such universe of life in force, to man it will be true, whatever be the fact, that of that universe of life there is nature, and man of nature at this earth. And thus there are a multi-

tude of disputable and disputed propositions, the truths of the all of which are dependent on the truth that there is such universe of life in force—as susceptive of proof as that there is thermal, photal, electric, magnetic, attractive, repulsive, levitative, or gravitative force, the one of which were possible but as there be an universe of force, itself possible, but as there be these forces, at this earth, and in these the life of which is nature.

This force of the finite word of God I have termed reality; and in the work have done little more than present the evidence to show that there is this reality; and in this have done little more than show that in nature there are the phenomena demanded by this hypothesis of life. My acquaintance with the phenomena of nature in her different deportments were too slight for the inductions necessary to establish this hypothesis. But accepting the discoveries of science, I have grouped them, merely, to show that the phenomena observed were miracles without this hypothesis, as were this hypothesis the miracle without such phenomena observed.

Assuming the reality to be infinite being finite; and that this is being physiological in the limitation of one infinite by another infinite as itself; and this in production of the finite being intermediate of both, in a wheel of relatively static being finite in revolution on its axis of relatively dynamic being finite—such as is the spark of relatively static light in revolution on its axis of relatively dynamic heat, from the reactions of electricities plus and minus, unconducted, in the earth's atmosphere to produce it—I have assumed, that, such as is the spark so physiological of electric forces in reaction, such is the moment of thermal, photal and magnetic forces. And such those in molecules and compounds of matter. And such those in the earth, plant, animal and man, and in the mind and states of man.

That of this is the earth in revolution on its axis and in its elliptical orbit of revolution on the axis of the solar system. And of this the law of planetary movements; and of the gravitations of matters at this earth; and of planetary distances from the sun; and of the mechanical equivalent of heat; and of the attractions, repulsions, gravitations and reactions, of matters;

and of that atmospheric medium of elastic force about the earth through which there is the telephone and telegraph; and actions of matters at a distance; and the sense of external objects; and the gaseous matters of this earth's atmosphere; and of eccentric heat and concentric pressure on the earth's surface; and of rains and snows; and cyclones and earthquakes; and of the earth's gaseous matters into plants; and of the matter of plants into animals; and of the matter of animals into man, and the mind of man; and of man into states; and of radiant matter in exhausted cells seen by Crookes; and the argon, more attenuated than water, found in the earth's atmosphere; and of the Katode or X rays lately found by Roentgen.

With respect to the phenomena of this last discovery, the theory is that the rays are but finites from electrical reactions; and different from the finites of electrical reactions in this earth's atmosphere only in that they are protected by the tube, from the disturbance of such matters, so as that, while of reactions in the atmosphere there is the spark, in the tube, without such atmosphere, there is being finite pure and simple, in the conditions through eccentric radiations to pervade the beings of its environment and make report of its experiences in its course to the sensitive substance receiving it.

Such are reasons to suggest that the theory is true not only to the extent that if there be the reality in life there is nature, but to the extent that there is in fact the reality in life.

And that of nature there is man to the man possible. From the first, man has inquired of phenomena whence he came and whither he goes. And of his cause through philosophy, and of his end through theology; and from phenomena in external nature available he has induced his hypothesis of the cause of man, and from phenomena in man himself available he has induced his hypothesis of the end of man. And, the one hypothesis of philosophy, and the other of theology, neither has been sufficient, and for the reason that the deductions were from too limited an array of phenomena. The phenomena in nature require the hypothesis of an universe of life in finite force; those of man require that of the man possible as the end of man. But phi-

losophy has not yet accepted the hypothesis of cause in finite force, nor has theology that of the man possible at this earth as the end of man.

But it will be contended that there is no adequate hypothesis of cause but in an universe of finite force. And no adequate hypothesis of the end of man but in the man possible at this earth: and him the most man possible, and the best man possible, to be his most. And this theory, therefore, in giving the hypothesis from which by logical deductions there are the phenomena of nature, has, perhaps, the greater merit, if true, of answering the two great questions which from the earliest times have tasked the solicitudes of man. To its truth are the pages following, which, if I could, I would have made more agreeable to the general reader. But I trust that to the attention of some, at least, the importance of the subjects will commend the work, however irksome they may find it.

LEONIDAS SPRATT.

# Nature of an Universe of Life.

## INTRODUCTION.

IT IS scarcely to be hoped that the truth, or meaning even, of this proposition will be taken from its statement, merely. We have no definite conception of life or nature. We see that we term life, in plant, animal and man, at this earth; and that we term nature, not only in these, but in motion, force, space, matter, moon, earth, sun, and stars. But we do not see that these are substantive, or that they are the necessary modes of any being substantive, or that they are co-extensive, or that there is life also in those beings of nature, or that these—life and nature—are the co-ordinate and complementary constituents of an essential being of this universe of which life were causal of nature consequential, as they were, if there be nature, of an universe of life. And, that the meaning if not the truth of this proposition may be seen, I must be indulged in an introductory statement of its implications, but few of which as truths, I must admit, have been accepted.

It implies that there is a reality and this an essential being of the universe; that this is being physiological; that this is the being possible of kindred beings different through their reciprocal affinities, simply, in reciprocal limitations of each other; that of these, the one is life and the other nature; that this being physiological of both is in a process of its being into the beings of it possible to be termed teleologic evo-involution, in which evolution is life, and involution nature. And that of these beings possible of such universe of such being in such process there are stars in nature about the universe of life. And suns in nature about the stars as life. And planets, such natures, about suns, as life. And moons, such, about planets, such. And plants, such, about the earth, such. And animals, such, about the plant, such. And men, such, about the animal, such. And that thus by one of its radiations, at least, there is nature of an universe of life, from that universe to man inclusive.

And that there is such one essential being of the universe in a being finite of the word of God in force, and that this is being physiological; that the ultimate elements of force are the minus and plus of electricity; that these are kindred, from being of the same infinite elements, and different, from being of these elements inversely; that so they are reciprocally vacua and preciprocally plena. And so are reciprocally attractive and reciprocally repulsive. And, of their reciprocal attractions, are in penultimate coincidence on the axis of their neutral being intermediate, and, of their reciprocal repulsions, in penultimate differentiation thence in production of the being possible of both; that such is the spark of heat and light from the coincidence of these electricities, unconducted; and such the electro-magnetic spiral of magnetic moments moving on, and oppositely about, the axis of electrical reactions, conducted; that this is in diagram of a wheel in revolution, the axle of which is of minus prepotency, and the disk of which is of plus prepotency; and the axle heat and the disk light; and the axle electricity and the disk magnetism, and the axle life and the disk nature. And life excentive and nature concentive, and life radial and nature peripherential, and life in evolution and nature in involution—and, life in evolution of nature and nature in involution of life—that thus there is of this finite word of God in force the being physiological in evo-involution.

And that this is teleological, that into every such being physiological, at its place and time, there is, directly, or incidentally, a current of life exceeding the capacity of its nature, which, transcending such nature forms into peripherential wheels physiological in revolutions on their axis and in orbits of revolution on the parent wheel. And that thus there is a nature in stars, suns, planets, moons, and this earth, and plant, animal and man about it, in teleologic evolution, simply, of an universal reality in life. And this that nature of an universe of life intended in the title. And in this statement of its implications the meaning of the proposition will, at least, be seen. And its truth will be seen if it shall appear that there is a reality-contingent, but upon that there be being finite, or the word of God, or force—contingent, but upon that there be life, or nature, or the moment, or medium of force, or the molicule, or compound of matter, inorganic, or organic, or the plant, animal, man, earth, sun, star, or universe—the one of which could not exist if there be not force—possible, but as it be the being finite of beings infinite—possible, but as that be the word, expressive of the will of God, in the finites of it possible. And in showing,

therefore, that there is nature of an universe of life, a truth so rarely accepted definitely, I will have but to show that there is reality.

Nor indeed is it necessary to show that the reality in fact exists, but, only, that we must believe it does exist. It is logically certain that we know of objective beings but the impressions they produce upon our own conscious being, that these impressions are as necessary; and, as necessarily consistent with the objects to produce them, as are the consequences of their causes; that in these impressions are our beliefs in the existences of such objects. And in our perceptions of the relations of impressions are our beliefs in the relations of such objects. And that, in realizing a reality, we realize it as an universal being physiological of life and nature. And that in this there is nature of an universe of life. So that, to us, at least, whatever be the fact, there is nature of an universe of life, if to us there be reality. It will be found, if it be not now seen, that our ideas in realizations of impressions in which are our beliefs in the existence of external beings, are in strict analogy to the pictures of the landscapes upon the photographic plate. And that, as the plate can take no picture of a landscape that does not exist, and cannot under suitable conditions refuse the picture of that which does exist in incidence upon it, so the mind of man consisting in conscience and its reflections while incapable of an idea of that which does not exist, is as incapable of rejecting the idea of that which does exist in, incidence upon it, as is consequence of rejecting cause or cause of rejecting consequence.

And such the implications of the proposition of nature of an universe of life from this statement of them its meaning will be seen as it might not have been without. And its truth will be seen if it can be made to appear that there is a reality, which can consist but in a being finite of the word, expressive of the will of God, through an universe of his own being physiological in force and which were the miracle of cause without consequence if there be not, of it, nature of an universe of life—each the miracle of consequence without cause if it be not consequence of that reality.

Nor will repugnance to this truth continue. At present our repugnance to it is from incapacity. Unable to realize reality we are unable to realize its incidents, or that this is being, or being physiological, or universal, or exclusive; or that this is of life, or nature, or in wheels of nature on their axis of life; or that these are of the radiations of life into nature and of nature into life, and of life, excentric, and of nature, concentric, and of

life in evolution of nature, and of nature in involution of life; or that the life axle of every such wheel is in excentric radiations of its special being to produce its disk, and its disk in concentric radiations of its special being to produce its axle; or that these are the reciprocally intussusceptive radiations of the minus and plus of electricity to produce the spark of heat and light, or the electromagnetic spiral of magnetic moments about the axis of electrical reactions; or that these are such rays of the male and female of the animal, or of stamen and pistil of the plant; or that these are the excentric and concentric radiations of this earth—the excentric in heat and levity and the concentric in cold and gravity; or that these are the beings in parts of one integral being which, torn apart by forces in the battery, appear, the one as minus at its negative and the other as plus at its positive pole, and which in reconvening, the one from the rails and the other from the trolley, produce the revolutions of the wheels to move the electric car; or that these are the katodes and anodes of Farraday, the ones of life into nature and the others of nature into life; or that these are those lately found by Runtgen in which the katodes of life record upon the anodes of nature the irregularities of the permeable septum through which such rays of dynamic life may pass to reach their reciprocal and expectant anode rays of static nature; or that these are the katode rays of Crooks which, seeking their anodes through the exhausted tube, are subject to the magnet exterior, and which, in finding them, exhibit to him the phenomena of radiant matter; or that these are the rays from, and to the earth, reacting into that atmospheric medium of force physiological, the disturbances of which, at any one point, are felt in sound, or through the telephone or telegraph, at another, and of whose reactions in teleologic evo-involution there are, at the points possible, the moments of that substance lately found, more attenuated than water, termed (argon), and the molecules of oxygen, life, and hydrogen, nature, termed water, and which, of heat and life in excess, rise in vapor, and of cold and nature in excess, fall in rain and snow; or that these are the radiations of life and nature opposite in force of whose reactions, within the earth, there are, not only the waters to rise through artesian wells, but the explosions of which the earth quakes, and of whose reactions, without the earth's crust, there are the variations of temperature and pressure in the earth's atmosphere, of which are its storms and cyclones. Unable to realize reality, such being physiological of life and nature in teleologic evo-involution of an universe of life to man in nature at this earth, or these its incidents, we are less able to realize that man himself is

such reality, and still the less that the mind itself is such. The effort is that of sight seeing itself, or of weight weighing itself. But subject in both body and mind to the universal law of cause to consequence and consequence to cause, in which there is no consequence without its cause, and but in ratio of its cause, or a subjective impression but of an objective cause and in ratio of that cause, in observation of which there is reason; we must ultimately come, rationally, if not consciously, to the conception of an universal reality in life. And that of this there is nature. And, as we are without repugnance to our conceptions, we will not then repudiate the theory of nature of an universe of life. And if in fact, therefore, there be such reality, or if we must believe that there is such reality, there will be the truth for our acceptance, and without repugnance, of the truth, that there is nature of an universe of life.

# Nature of an Universe of Life.

## CHAPTER I.

Under this title it is proposed to show that there are life and nature; but obverse aspects of one exclusive being of this universe; that these are in modes of being reciprocally opposite, the one causal and the other consequential, and the one life and the other nature; that both are universal, but that the one is antecedent and the other consequent; and that thus there is nature of an universe of life. And that this is through stars, sun, earth, plant and animal, from that universe to man and the mind of man, inclusive—that being but the final term of that nature of this earth in radiation from its axis in that universe of life.

It is intended that there is such universal and exclusive being, and that this is the being finite of the word of God in force; that there is being finite of beings infinite in reciprocal limitations of each other; and the word of God in such the finite of his beings infinite; and force in the physical forces heat, light, electricity and magnetism, dynamics, in that seeming vacuum we term space; and static, relatively, in that apparent plenum we term matter.

And that, of this, as the being finite of beings infinite there is an universe; and, of this, as the word of God the universal cause, an universe; and, of this, as force, but in phenomena of that finite word, an universe. And that this, whether as the being finite, or the word of God, or force, is exclusive of other being in that universe. And that, equally exclusive, are the lives in natures of that universe. And that, of its modes of being reciprocally opposite, are the lives in nature of that universe; and the lives in natures of that course of nature from the universe to man, of which the final term, to man, himself, is the mind of man. And that this transition of being invisible into being visible, and of being cause into being consequence, and of being life into being nature, is from the reactions of the modes of this being with each other. And these in their reciprocal limitations of each other from their reciprocal affections for each other, merely, and this through reciprocal intersception and evo-involution.

And to this it is intended that this reality of the word of God in force is being physiological; that this is the being possible of kindred beings different, of their reciprocal affinities, simply, in reciprocal limitations of each other; that this is in production of a wheel of their common beings about the axis of their coincidence; that this is by a process to be termed evo-involution; that this is teleologic, and that, thus, of this universal word of life in teleologic evo-involution, there are stars about the axis of the universe; and suns about stars; and planets about suns, and moons about planets. And about this earth, a planet, the plant; and about the plant the animal; and about the animal the man, and about the man his mind, in the reflections of his conscience; to which it will appear that there is this course of nature so radiating from its universe of life to that mind in man its final term.

And that this is being physiological. Intended that this is the being possible of kindred beings different, of their reciprocal affinities, simply, in reciprocal limitations of each other, it is intended that such is the being finite. That to this, but of beings infinite, these are kindred, from being of the same infinite elements, and different, from being of these elements inversely. That so they are reciprocally vacua and reciprocally plena; and, so, are reciproaally attractive and reciprocally repulsive; and of their reciprocal attractions, meet on the axis of their neutral being intermediate in production of the being intermediate of both. That this is the being possible of such kindred beings different of their reciprocal affections merely in such limitations of each other, and, as such, is being physiological.

And that such, also, is this as the finite word of God; that there is God, but as cause; and as cause, but through means; and through means, but of his own infinite beings finite; and these finite but in reciprocal limitations of each other; and in such limitation of each other, but of their reciprocal affections for each other merely; that there are these but as they be attractive and repulsive—possible but as they be vacua and plena—possible but as they be of the same elements inversely; that this word expressive of the will of God in the finites of it possible, is but the being finite of beings infinite, and this being physiological that, so, also, is that being finite as the word of God.

And that such, also, is this one essential being of this universe, as force. That there is force but in phenomena, to us, of that finite word of God which, however we ourselves, and our consciences be of it, is otherwise insensible to us. And that that, whether in its thermal, photal, electric, or magnetic mode, or dynamic but insensible in space, or static and sensible in matter,

is the being possible of kindred beings different, of their reciprocal affinities simply, in reciprocal limitations of each other. That the most obvious elements of force are in the minus and plus of electricity; that of any force on matter these are developed at its extremities. And, if they be in sufficient quanities and are brought near enough to each other, that they spring to meet in the spark of heat and light, from the phenomena of which, considered, it will appear that these electricities are kindred from being of the same elements, and different from being of these elements inversely; that so there are vacua and plena and attrac tive and repulsive; and so are coincident on the axis of their neutral being intermediate; and in differentiation thence in production, unconducted to reaction, of the spark of heat and light—but transformations, therefore, of such electricities. But that, if these be conducted to reaction, they then result in the invisible electro-magnetic spheroids of magnetic moments moving around the wire connecting the poles of the battery in which there is the conducted current of electrical reactions. That this spark, or spheroid, therefore, such being possible of such kindred beings different, is being Physiological, as it were of necessity, from its being in phenomena of the finite word of God. And that so is the every other moment of physical force physiological from its reacting with that of electricity, as it could not if not of the same elements inversely. And that so also is the every element and compound of matter from its reacting with every moment of force, as it could not if not of the same essential elements inversely. And so that this one essential being of the universe, whether as the being finite, simply, or this, as the word of God, or this, as force, is being physiological.

And that this is in evo-involution. It is intended that of the being infinite in reciprocal limitations of each other to produce the finite, the one is dynamic, to the other static, with respect to our consciousness of it, at least, and that the one is fast therefore to the other slow upon, and about, the axis of their neutral being intermediate, on which, of their reciprocal affinities, they meet. And that, in meeting on that axis, the one is as screw, to the other nut, the screw to enter and disrupt the nut, and project it in rays of screw and nut, to the circumference of that field of their being possible about such axis; and in production of a wheel of their common being in revolution on such axis, of which the axle is in evolution of the disk, and the disk in involution of the axis. And, this the finite being physiological, that this is in evo-involution. And that such, and so also is the being finite of the word of God.

And that so in evo-involution, also, is that finite word in force. Intended that in ultimate analysis of matter there is force, and that, in ultimate analysis of force, there are the electricities minus and plus, it is intended that of these in coincidence and differentiation to produce, unconducted, the spark of heat and light and, conducted, the electro-magnetic spheroid, the minus is dynamic and the plus static; and the minus, therefore, fast in its being on, and about, the axis of coincidence, and the plus slow. And that, in meeting on such axis, the minus is screw to the plus nut; and that the minus enters and disrupts the plus and projects it in rays of minus propelling plus, when unconducted, into the disk of light about its axis of heat; and conducted, into the disk of magnetic moments moving about their axis of electrical reactions to produce them. And that in this there is the minus as heat in evolution of the plus as light and the plus as light in involution of the minus as heat; and electricity in evolution of magnetism and magnetism in involution of electricity. And that, so, in the moment of heat there is heat prepotent, in evolution of cold, and, in the moment of cold, the cold prepotent in involution of heat and, so, in the magnetic moment, there is the south in evolution of the north, and the north in involution of the south.

And intended that the molecule of elemental matter is of atoms negative and positive, it is intended that the negative is, relatively, minus, and the positive plus; and the negative, electric, to the positive, magnetic; and the negative, heat, to the positive, cold; and the negative, dark, to the positive, light; and that the negative is in evolution of the positive, and the positive in involution of the negative.

And that so also is it with the matter compound of its elements, acid and base, the acid in evolution of the base and the base in involution of the acid. And so also with the plant of its elements stamen and pistil, the stamen in evolution of the pistil, and the pistil in involution of the stamen. And so with the animal of its elements, male and female; and so with man, of his elements, paternal and maternal; and so with the mind of man, of its elements, perceptive and reflective—the perceptive being in evolution of the reflective and the reflective in involution of the perceptive. And so with the earth, suns, stars and universe, of their centers of space and their crusts of matters.

And, intended that this being physiological of the universe is so in evo-involution; it is intended that this evo-involution is teleologic. That, from the disks of such wheels physiological in revolutions, there are beings physiological thrown off in tangents, to form in their planes of revolution, into smaller such wheels, in

revolutions on their axis and in orbits of revolution on their parents as axis. And that thus there are visible stars about the invisible universe, and suns about these, and planets about these, and moons about planets and meteorites possibly about moons, And that thus, analogously, there are plants about this earth. and successive generations of plants about the plant; and the animals possible about the plant; and successive generations of animals about the animal; and the man possible about the animal, and the generations of men, and the stocks, tribes and states of man about the man, and the mind of man—producing man into the successive stages of man through perception of the means by which he becomes continually more and better than he was —about the man.

And thus intended that there is one dynamo static and essential and exclusive being of this universe, and that this is being physiological, and that this in evo-involution, and that this is teleologic, and that this is that, of the teleologic evo-involutions of which, there are the beings possible from the universe to man and the mind of man inclusive; and that the causal mode of this being is life and the consequential nature, and that of the causal mode of this being there was an original universe, it is intended that of that there is nature; and nature, therefore, of an universe of life. And that of these beings, so possible of this universe of being in such evo-involution, each is the possible, and but the possible, at its place and time; that place is evolution and time involution, and place causal and time consequential, and place life, and time nature; that each nature therefore is the legible record of its own existence in relation to life in such radiations into natures from the axis of the universe. That of these teleologic evo-involutions of that universe of being physiological, there are the radiations possible the one of which is that through stars, sun, earth, plant and animal, to the conscience and mind of man, inclusive, which, therefore, is but the nature, possible, at its place and time, of the conditions incident to produce it, as is the man, himself, and as is the animal, plant, or earth, and as the image in the eye of its distant object, and as is the picture of the landscape upon the photographic plate.

That thus, in observation of the ratios of its beings to the objects to produce them, there is reason in the mind of man. And, by reason of inductions of such phenomena observed, there is science of their causes, and, by reason of its deductions from hypotheses of causes established by inductions of phenomena, there is philosophy of consequences not to be found in any other way. And that thus, therefore, in this theory there are the bases

both of science and philosophy, the both of which are otherwise empyrical; that this theory accepted, there were not a phenomenon to us but as consequence of cause in that original universe of life, and which were possible therefore but as there be such universe. That there were not such universe, but as by deductions from it there be not only the every phenomenon visible but the every phenomenon invisible and the every phenomenon that has been or is yet to be. And that thus, therefore, there were the theorems of science and the problems of philosophy as exact as are those of geometry, or mathematics, the no one of which were possible, but upon the assumption of an universe of being cause and consequence—possible but as the one be life and the other nature, and as there thus be nature of an universe of life.

## CHAPTER II.

### But Not Accepted Generally.

But such the theory of nature of an universe of life it is not accepted generally. And though it be the necessary deduction from the hypotheses of an universe of cause to an universe of consequence and an universe of consequence of an universe of cause. And though the truth of such hypotheses be established in the consistency with it of every phenomenon in nature and in the acceptance of it by every human intelligence in its every sensation, reason, science, philosophy and knowledge; and by every man in his every act in preservation of his individual existence; there is no one individual perhaps who accepts this truth in its integrity; or that there is in fact but one essential being of this universe, or that this is universal, or that this is exclusive of other being of the universe, or that this is the being of every physical force, or that the beings of all physical forces are the same, or that this is the being of space, or this the being of matter, or that the beings of all matters are the same, or that this is the being of the stars, sun, earth, plant, animal and man, and the mind of man, or that this mind is the final term of nature in man from the teleologic evo-involutions of a life in nature from the axis of the universe, or that the mind of man is but the photographic plate upon which are inscribed conditions incident from nature's antec ent as upon the s nsative plate are impressed the pictures of t landscape, or that the conscience of man does not or motives, or that the reflections of conscience do nc motions to effect.

These, the mind of man, consisting of his conscience and its reflections, must accept in accepting nature of an universe of life. And my experiences are with my theory in the assumption that not only do not men generally accept this theory but that men of science, even, do not. And are indisposed to entertain the question of its truth.

To common men tasked to the preservation of their individual existences it is too abstract to be considered. And men, common, or uncommon, were equally insensible of their relation to such being of the universe; and that their minds are of life and nature, as are the other beings of this universe; and that they have senses of external beings, but as the beings of their minds react with these beings. And that the life of mind reacts with the nature of its object; and the nature of mind with the life of its object; and that the life of mind is its conscience which perceptive of the nature of its object is not perceptive of its life with which directly it does not react and with respect to which it is as blind as is the eye to that intervening force through whose mediations it becomes possessed of its sense of such distant object.

They are also for the same reason unconscious, however rationally they be forced to realize the fact, that the essential being of force, space, matter, life, nature, sun, earth, plant and animal, is the same as that of man and the mind of man. Nor are scientists, or colleges of science instant to enlarge the areas of the truth they cultivate. And beside this the terms of this theory are unfamiliar. And that of evo-involution will seem to have been adopted to distinguish, without a difference, this from that of evolution. There is a difference; that gives the mode of the reality, this the reality, itself, in its mode; and this as different from its mode, as in the shellfish from its shell. And implicitly accepting evolution as far as it goes, it is sought by evo-involution, indicating both factors of the being physiological, to give to evolution—else but a name—a real existence, and a local habitation.

But it is to be doubted that this will be accepted by the advocates of either evolution, or theology, or that the votaries of science or philosophy will accept a theory to render valueless their empyrical investments. And it is to be expected, therefore, that who advances this theory will but add to the list of those who have impaled themselves upon the rough edges of a coming truth.

It is at least to be expected that he will incur the imputation of simplicity; *first*, in gravely arguing to establish a truth so

simple; and *next* in advancing a proposition so absurd. There is no question that God is the cause of nature and through life the only means through which there can be nature. And the argumentative assertion of this truth will, aptly, seem absurd to those who in their every thought and act at every instant of their lives have been in its acceptance.

But few accepting this truth have accepted its conditions, or that while there is life in man, animal and plant, there is life in force, matter, earth, sun and stars; or that this life is the same as that in man and the mind of man; or that the mind of man is of the same essential being as the man himself; or that man is of the same essential being as the animal, plant, earth, sun or stars —as he must be, if there be but such one only exclusive being of the universe. And not accepting this as the necessary deduction from the hypotheses of such being they will be apt to regard the advancement of such proposition as absurd.

Still its merit is in its truth. It is true if there be life or nature, the one of which were not without the other, and the neither of which were without such universal and exclusive being finite of the word of God in force. And as it is not questioned that there is nature, or that there is life in plant, animal and man, there will remain but the question whether that life admitted to be in plant, animal and man is co-extensive with nature, and seem to be the cause of nature in plant, animal and man, is also the cause of nature in the other beings of the universe. And in the assertion of a truth so important I must accept whatever of comment may occur.

It gives the rationale of being in this universe and of man's relation to that being. It solves the enigmas of predestination and free agency in man. It gives definition to terms expressive of natural phenomena. It gives the bases of science and philosophy. And more than all, to us, it gives scientific existence to moral being in this universe and such existence and office to the soul of man.

To the mind of man, such ultimate term of life and nature at this earth of a life in nature from the axis of the universe, it gives the records both of life and nature in their courses from that axis. To that mind, of life and nature and midway and mediating these, are i[illegible] upon th[illegible]e life of which, are inscribed the record[illegible] and [illegible] of the nature of which are inscribed [illegible] of li[illegible] ourses from and to their sources of [illegible] n [illegible] m God its originating cau[illegible] mind is able to perceive [illegible] to

life and the terms of those relations and the definitions of those terms. And that those relations, expressed in terms of life, are causal, of those in terms of nature, consequential. And so situated and in representation of universal life in man, the mind of man must see that life is causal of nature consequential; and life nou-menal and nature phenomenal; and that in life there are the hypotheses of which in nature there are the phenomena. And that in life there is the philosophy of which in nature there is the science. And that life is moral and nature physical. And in life the moral mandates, to which, in nature, there is the physical obedience. And that while these moral mandates in life of the will of, God, delivered from the axis of the universe, are inexorable in the natures of them possible, that they be their most possible and their best possible that they be then most to the lives and natures of them ultimately possible—the natures themselves are not conscious of such mandates, delivered through their lives of which they are unconscious—yet, that, without this consciousness, they execute such mandates in strict fidelity, as the conditions of their existences.

It is thus that the theory of nature of an universe of life gives to the mind of man the rationale of being in the universe, and of man's relation the that being; and solves the enigma of predestination and free agency in man; and of predestination in his being the necessary consequence of a pre existent cause, and of free agency in his utter unconsciousness of such conditions and his supposition that his motives of life through nature are his own. And defines the terms of objective and subjective being, in giving to the subject of each name its place and office in the diagram of life, or nature. And gives to science and philosophy their bases and departments; and to science, its, in the inductions of its hypotheses from phenomena; and to philosophy, its; in the deductions of phenomena from hypotheses.

And, more than all, it gives its place and office to the soul of man. There is a cause of his being, and of his being such as he is, in every individual man. And this is a moral being, termed his life, of whose ministrations of conditions there is his being physical. In this there is the mandate, to every such individual man, that he be his most and best. And this life, such moral being, changed by God to its duties in the individual man possible, were a soul in the individual man. But there is also a cause of its being in every stock of agamic man and in every tribe of polygamic man and in every state of monogamic man and in the mind of man agamic, polygamic or monogamic. And this is a moral being to be termed its life which through civili-

zations of its better lives is in administration of such stock, tribe, state and race to its best and most. This general life of man, also, charged by God to the man possible, were, also, a general soul in man, and that generic, as that in the individual were specific. And though there be other soul in man than that in life of that reality of which there is the universe and to other ends than those of the man possible in nature at this earth, there is at least, that in life of the individual state and race of man. In this were the word of God to man. In this were the duty and in this the well-being and continuation of man in nature of this earth. This were a soul, therefore, and this the soul to which the theory gives place and office. It is of the last importance that we realize the existence of such soul not possible but in realizing nature of an universe of life and I am unwilling to forego the advancement of this theory from the feeling of repugnance its advancement may inspire.

As yet its office is unexecuted. There is more and better man in the agamic stock than in the two-footed and two-handed animal; and still more and better in the polygamic tribe; and still more and better in the monogamic state. And there is the possibility of a yet more and better in the state of unequal races in the relations of inequality. The monogamic state, however, it be under a hereditary ruler, tends resistlessly to a republic under a government by appointment, not of the proprietary male parents, but of adult males not necessarily possessing the qualification of parentage, or properly these must assert, not the state, but their interests as individuals as against the state. Parties form, the majority rules, and the government and the constitution of the state become the volition of a victorious faction which, in securing its advantages, will not sustain the state to its largest and best man possible. Such were not the result of an union of monogamic man with a lower race in such relations of inequality, as that the lower could not participate in the elective franchise. There is no reason that such state should not exist, and existing, endure indefinitely, and until there be in it the man possible. And it is as certain that there will be such state as that in monogamic man there is not the potency and promise of such states. And it were incalculably better that man put the talent of his moral life to the usury intended than bury it in misgivings however fond. This he does in mistaking theology for religion and his individual life for the life of his race—if there be nature, inclusive of his own, in an universe of a life of the will of God in force. And while, therefore, in this theme there is the reason of being in this universe; and the solution of enig-

mas; and the definiteness of terms to science and philosophy, there is in it also, if it be true, the place and office of the soul of man. And, true if there be reality, true if there be God, I must persist in its presentment.

## CHAPTER III.

### Failure of Earlier Effort to Present This Theory.

More than a year ago I commenced the publication of a work entitled "Man, in Continuation of Nature," of which the special object was to show that there are unequal human races on this earth; that these can co-exist, in relation, and in relations to the betterment of both; but, only, in relations of inequality, in which the higher race shall rule and the lower accept of its authority, by whatever name that relation might be termed.

Impressed with the truth of an universal reality of the word of God in physical forces, invisible in space and visible in matter, and that this is being physiological; and that this is life in teleologic evo-involution, and that this is nature, and that of this are the natures from that universe to man; and that each is such being physiological in such course of its life the cause of its being into the beings of it possible; and that such is the moment of thermal, photal, electric or magnetic force; and such the spark of heat and light, and such the molecule compound form or organism of every matter inorganic or organic; and such the plant cryptogamic phanerogamic, endogenous or exogenous; and such the animal radiate, annulate, articulateor vertebrate—I assumed that man, agamic, polygamic, or monogamic, in stocks, tribes or states, is also of such life in nature and destined to its possibilities not yet completed in the man now existing at this earth.

I assumed as the necessary deduction of nature from the hypothesis of such universe of life, that each nature is committed to its work, and to its best that it be its most, by every variation possible to the continuation of its individual existence.

That so the individual plant becomes the plant possible; and that so the cryptogamic plant became the phanerogamic, the phanerogamic the endogenous, and the endogenous, the exogenous. And that so the radiate animal became the annulate; the annulate the articulate; the articulate the vertebrate; the vertebrate fish, the reptile; this the digitigrade; this the plantegrade; and this the four-handed and this the two-footed and two-handed animal. And so I as-

sumed that, by variation simply to the conditions of existence, there was the life in nature of organic matter at the earth, through nature possible, to the two-footed and two-handed animal into agamic man, consisting in the union for life of the unmarried mother with her offspring; and agamic man into polygamic man, consisting in the union for life of the male parent and his offspring by several females; and polygamic man into monogamic man, consisting in the union for life of a male parent and his offspring by a single female.

And I assumed, also, that monogamic man was not the man possible; that his highest state is that of a representative republic at the volition of the individuals composing it; that, these, under the instincts of individual interests, will sustain the state so long as it shall not be to their interest to use the state; but that, when interest become organized, and capital can use the state to foster its investments at the expense of labor, or labor can use it to foster its interests, at the expense of capital, the constitution of the state becomes the voliation of a victorious party; that the state cannot long endure such usage; that to its stability there must be the ballast of a disfranchised class, not possible in any such monogamic state of men naturally equal; and that it must fall to a faction therefore, and long before there shall be in it the most men possible, or the best men possible. But that a state of unequal races united in relations of inequality, so that, with the political power in the higher race it could not be the subject of such usage, would present the conditions under which there might, and would be, the state of most and best men possible. And that thus in man, so far as he has gone, and in the possibility of his going further, in his way of nature, I saw what seemed to be the most conspicuous and effective illustration of the truth of this theory. And I adopted it, not only for that, but for the further reason, that, in establishing the theory, it would tend to establish truths of importance to the human races fitted for such unions.

To monogamic man, now white and the most advanced, it is important to know, if it be true, that he cannot achieve the end of man alone and in a state, therefore, whose constitution is popular volition; and must fail of his end, or accept of union with a lower race on terms consistent with the most and best of both. That lower race, so different as to be fitted for a position subordinate to the monogamic whites of Europe and America, is probably, the agamic negro of Africa. Of these there are eight millions now with whites in these United States, which, unprotected by some natural relation, cannot sustain themselves for subsistence

with the monogamic whites. There are perhaps one hundred millions such negroes in Africa soon to be colonized by monogamic whites from Europe. They also will not, without some natural relations, be able to sustain themselves in competition for subsistence with the whites. Such natural relations were respective positions in a social state in which the weaker race, for its labors, would take protection and substance from the stronger, if in no other way, as master of themselves as slaves.

The theme of "Man, in Continuation of Nature," therefore, seemed important, not only as the aptest illustration of a nature of an universe of life, but as the means to a sense of the relations of such human races to each other, upon which the further progress of the race of man depends.

But I had not proceeded further than a somewhat voluminous preface and introduction to that work before I found that the reading public was not ready for either question. It was not ready for question of "Man, in Continuation of Nature," without the theory of life in nature, or, for that, of life in nature under arguments merely to show such man's continuation of it. And without completing the publication of the work, I placed its outlines in such preliminary papers before the public. But, so far, from the press and many men of science to whom I sent the phamphlet, I have had no word of acceptance or of comment. This indifference may have been due, in part, to my inadequate presentment of the subject, and, in part, to repugnance to any question of our relations to the negro race. But I am forced to feel that it was chiefly due to an imperfect apprehension, not only of the truth of an universial reality life in nature intended, but of the meanings of the terms employed. And my experience is with my misgivings, therefore, that in my first presentment of the theory I must meet the difficulty, perhaps insuperable, of giving intelligible expression to its meaning. But I have yet the confidence that this will be overcome, and that men, to whom the proposition now appears absurd, will not so continue to regard it. For, in the presentment of a truth so naked as to shock the sensibilities of people, there is no single patentable novelty.

It is not such that there is one God, the only original being of this universe; or that he is of beings infinite in limations of each other to produce the finite, in expression of his will, that there be the finites of it possible; or that of these are stars, suns, planets, and without force, space, matter, life nature and the mind of man to see them; or that these, but of the one finite word of God, are essentially the same and differ but in their aspects to that mind of man, through their impressions upon

which, only, are we able to perceive them; or that these are lives in natures the every one of which, at every instant of its exsistence, is in instant attestation of the truth that it is of the word of God, through his universe of that word in force.

And such the truth, I cannot doubt that man will ultimately accept it; so asserted in his every act, and the burthen of his every prayer; and that he will be surprised, not in seeing that it does exist but would be surprised only in finding that it does not. The theory is based upon the truth of an universe of cause to an universe of consequence without cause or consequence from any other source. If this be true the thoery is true. And as there is no one who has known such miracle as were to the contrary, or who can conceive such miracle, or who could think, or live, for an instant, but in acceptanee of that truth, it may be confidently predicted that the enlightened man will entellectually accept this truth as hitherto the unenlightened has physically accepted it. And, despite the grounds of discourment, I return from this digression—important, only, to articulate and emphasize the special truth intended—and will show that, not only is it anticedently probable that there is nature of an universe of life, but that it is true there is such nature, if only there be life. And that there is life.

## CHAPTER IV.

### Nature of an Universe of Life Probable.

This proposition of Nature of an universe of life is not plausible. The human conscience, to accept this proposition, must accept itself as life. The universe of life were exclusive of other being in that universe, and of conscience itself but as it be of that life. And, however, it may be that there be such nature inclusive of man and the conscience of man, it is not true that the human conscience can see itself as life. It cannot realize that it is, itself, the essential substance of which are the spaces and matters of the earth and universe; and of the natures of these; and the less that it is the substance of the man himself; and still the less that it is, itself, the substance of human sense; and that in its experiences of the incidences of objective beings are our senses of such beings incident. This were sight seeing itself, and, of all things possible, that were the least plausible to human conscience which would require it, under these conditions, to accept that there is "Nature of an Universe of Life."

But the human conscience is so related to the being of this universe as to be obliged to accept that everything existing is cause of some consequence and consequence of some cause. In every case the cause of consequence or consequence of cause is to be found by reason of induction or deduction; and the cause by induction of consequence, possible of no other cause, and consequence by deduction from cause hypothecated, of which there were no other consequence. Such cause were probable to which inductions point, such consequence were probable to which deductions point. And it is highly probable that of two beings the one is cause of the other consequence, if, by deduction from the hypothesis of the one, we find the other, and, by induction of the phenomena of the other, we find the one. Such are the relations of the reality in life and nature; and the reality in life is probable if there be reason, by induction of phenomena in nature, that it does exist. And nature of that reality is probable if there be reason, by deduction, from the hypothesis of life that it does exist. And a nature of such life is probable as it be probable that there is life or nature.

And it is probable that there are life and nature; and probable that there is life. This, by hypothesis, were the causal mode of an original self-existent, automatic, autonomic, teleologic one and only being finite of the word of God; and this were being physiological; and this were in teleologic evo-involution, consisting in the resolution of every such parent being into its progenital beings possible.

It is probable that there is life, the causal mode of such original, self-existent one and only essential being of this universe, in that it is probable there is such being in the beings finite, and the word of God, and a substance of the physical forces. And it is probable that there is being finite in that it is probable there is being not infinite. Being, simply, were being infinite and being finite were in the limitations of one infinite being by another infinite as itself; and this were being original, self-existent, automatic, autonomic, teleologic, and, of infinities, it were the one and only being of the universe. And it were being physiological, the being possible of kindred beings different of their reciprocal affinities simply in reciprocal limitations of each other through evo-involution of such bings. And that it were in "teleologic evo-involution."

It were in such evo-involution. There were such beings, both infinite, but as they be of the same essential elements. And they were different but as they be of these elements inversely. And they were so but as they be reciprocally vacua and reciprocally

plena. And they were so but as they be reciprocally attractive and reciprocally repulsive. And they were so but as they be penultimaly coincident on the axis of their common being intermediate. And they were so but as they be in differentiation thence and in production of the spheroid of both in revolution on its axis of the one. And they were so but as the axis of that wheel be in eccentric evolution of itself to produce the disk, but as the disk be in concentric involution of itself to produce the axis. And they were so but as there be projections of the disk of the wheel into peripherential wheels in revolutions on their axis and in orbits of revolution on the parent axis. This were such original and universal being physiological in teleologic evo-involution. And it is probable that there is this as it is probable that there is being finite. And, in this life, and probable that there is being finite, it is probable that there is life.

And it is probable there is such life in that it is probable there is the word of God. It is probable there is God, the universal being cause of universal beings consequence. But he were cause but through means; and through means of his own infinite beings finite; and finite, but in their reciprocal limitations of each other. And they were so but as these be the same, and different, but as they be of the same elements inversely. And so, but as they be vacua and plena, and attractive and repulsive, and in coincidence and differentiation into the wheel of both on its axis of the one. This were the word expressive of the will of God. And such the word of God it were not of God, to us, without such word were being finite, and that in teleologic evo-involution. And the being finite life, so were the word of God. And probable that there is the word of God it is probable there is life.

And it is probable there is such life in that it is probable there is force. It is probable that there is an essential, invisible, inconceivable, and, in its original states, an indefinitely attenuated but universal being, in phenomena of which are the physical forces heat, cold, dark, light, electricity and magnetism; and that this is insensible in that seeming vacuum we term space, and sensible in that apparent plenum we term matter; and that this one, only, essential being of this universe, is life.

It is probable that, in every instance of its appearance, whether in moments of force, or space, or in molecules, compounds or forms of matter, organic, or inorganic, it is of kindred beings different of their reciprocal affinities simply in reciprocal limitations of each other into a spheroid of both; in revolution on its axis of the one eccentric; in evolution of the other concentric,

in involution of the one. And that in this it is being to be termed force; that in this, the one being in evolution, is force distending the other. And that the other, in involution, is force constricting the one. And that the being of these forces, so reacting, is force; and that such is the moment of heat in eccentric evolution into cold; and such the moment of cold in concentric involution into heat; and such dark in evolutions into light, and such light in involutions into dark; and such the minus of electricity into plus, and such the plus of electricity into minus; and such the south of magnetism into north, and such the north of magnetism into south; and such electricity into magnetism, and such magnetism into electricity; and such the negative atom of elemental matter into the positive, and such the positive into the negative; and such the acid compound into the base, and such the base into the acid; and such the stamen into the pistil, and the pistil into the stamen of the plant; and such the male into the female, and the female into the male of the animal; so that, of such beings different in forces of the ones in limitation of the others, through their reciprocal affections for each other merely, it is probable there is a being to be termed force, in the physical forces space and matter. And that thus there is force and of this an universe.

It is probable also that there is this universe of force in that it is probable that the physical forces are of the same essential elements and difierent but as they be of these elements inversely. And this is probable from the fact that they react. And it is probable they react from the fact that, in the incidence of any one physical force upon another, there is a change in their states respectively—possible only of their reaction; possible but as they be attractive and repulsive reciprocally; possible but as they be reciprocally vacua and plena; possible but as they be of the same elements inversely.

For the same reason of their reactions, it is probable that the physical forces and matters are the same, but, of elements inversely. And that they are so the same for the further reason that of force enough on any kind of matter it is sublimed to force. It is also probable that space is but matter sublimed to dynamic force in heat; and that matter is but space reduced to static force, in cold, and it is thus probable that there is but one essential being in the universe and that being force.

It is also probable that there is this in the probability that there is being finite which were sensible to us but in such universe of force. And in the probability that there is the word of God which were sensible to us, however we be of it, but in objec-

tive phenomena of force. And probable that there is being finite and the word of God and that in each of these there is cause and this force, it is probable there is force. And probable that there is force it is probable that there is life, in that the phenomena of force are those of life and the functions of force those of life; and that universal force were exclusive, and of life, but, as that be force.

And so, probable that there is life, it is also probable that there is nature. Such life were cause in its course of consequences possible. And nature were the course of consequences possible of that operating cause. And that cause were life, and nature the course in consequence of that cause, in life. And it is probable that there is nature in that it is probable there is force, which, as cause, were capable of such consequence and, as life, capable of such nature, and so, capable of nature, it were cause of nature, visible or invisible, or it were a miracle of cause without consequence. And it is probable that there is nature in that there is a course of being through stars, sun, earth, plant and animal from the universe to man which we term nature, and which is such nature as were that of the cause of force in life. And that if there be not nature, then there is not only the miracle of cause without consequence in life, but the mircle of consequence without cause in that we term nature.

And probable, therefore, that there are life and nature, it is probably that there is "Nature of that Universe of life." And so probable it is so important, in that it solves the problem of matter acting at a distance; and of the sight of objects at a distance and of the physical, chemical and physiological reactions of matter inorganic and organic in contact; and of the generation, growth, variation and reproduction of plants and animal, and of the families, stocks, tribes and states of agamic, polygamic and monogamic man. And in this it gives philosophy to science, in giving deduction from hypothesis as well as induction of phenomena, to truth. And, more than all else to man, it substitutes in his moral being, religion, in acceptance of the real word of God, for theology, in acceptance of man's imagination of that word.

But so important, the truth, as I have said, is not apt to be acceptable; and this for the reason that through our conscious being only can we make acceptance; and that this, our conscious being is itself, that life of which there is nature; and this, like sight, which perceptive of its object is not perceptive of itself. There is nature of an universe of life but as in force there be an universe of cause and in nature the consequences of universal

cause. And there is in man the consciousness of an universe of life as cause of an universe of nature but as the consciousness of man be, itself, life in nature. And this, seeing its object, cannot see, however it may reason of, itself. And there is reason that there is human conscience itself, life intermediating force and nature, as there is that there is the mean the same as its extremes in the magnet, spark, or moment of thermal, photal, electric or magnetic force, or the molecule compound form or organism of matter, inorganic or organic, or plant or animal or man, himself. and the conscience of man, such mean between the reality in life and the nature of that life, may be logically compelled to accept that there are life and nature and that it, itself, is of life and nature, without the conception of the fact and without the disposition, or ability, to consciously accept that fact.

But it is just so probable that there is "Nature of an Universe" of reality in life as that there is life or nature. And as it is probable, that there are both of these, it is probale however implausible, that there is "Nature of an Universe of life."

## CHAPTER V.

### True, If There Be Life.

Thus probable that there is "Nature of an Universe of Life," if it be probable that there is life, or nature, it is true that there is such life in nature if it be true that there is life or nature. The reason that it is probable there is nature of life, if it be probable that there is life, or nature, is the reason that there *is* nature of life ifit be true that there is life, or nature. If the event be probable, from the probability of its conditions, it is, for the same reason, certain, from certainty of its conditions. And it is not more probable that there is such nature, if it be probable there are life or nature, than it is certain there is such nature if it be certain that there is life or nature. And I am warranted, by the previous argument, in saying that, if it be true that there is life or nature, it is true that there is nature of an universe of life.

But the present proposition is more restricted and affirms that there *is* such nature if only there be life. And it is restricted for the reason that if there be life such finite word of God there is nature of that life. And though it be equally true, that, if there be nature, there is such life, and such nature, therefore, yet it were not useful to establish two propositions, the one being sufficient.

And as it will be more readily seen that there be life of this finite word of God, of this, there is nature, I now limit the argument to this, and will show that there is nature of an universe of life, contingent only on the truth that there is life.

This, by hypothesis, were the causal mode of the original being finite, necessarily of beings infinite, of their reciprocal affinities, simply, in reciprocal limitations of each other. And it were this also of the word of God, the one, only and exclusive cause of beings consequent; and this, the expression of the will of God, in such beings consequent. And that word were necessarily of God's own beings infinite, becoming finite, and finite, of their reciproical affinities simply in reciproical limitations of each other; and, as such, it were simply being finite.

And it were that nonmenal being in phenomena of which are the physical forces; and this, insensible to us, in that seeming vacuum we term space, and sensible to us, in that apparent plenum we term matter. It were therefore the essential substance of those forces and of space invisible and matter visible. And it were the being finite, in that the being finite of beings infinite were universal and exclusive of other being finite, and exclusive, therefore, of force but as that being finite; and it were the word of God also universal and exclusive of other being, and of force, but as it be that word.

And as such it were being physiological, the being possible of kindred beings different of their reciprocal affinities simply in reciprocal limitations of each other in productions of the spheroids of both in revolutions on their axis of the ones, dynamic, in evolution of the others, static, in involutions of the ones. And these spheroids were, in teleologic evo-involutions, consisting in the resolution of every such parent spheroid into its progeny of spheroids possible, each potentially in revolution on its axis and in its orbit of revolution on the parent axis; so that, of the universal spheroid such, there were stellar systems in revolutions on their axis and in orbits of revolution on the axis of the universe; and solar systems in revolution on their axis and in orbits of revolution on the axis of stellar systems; and planetary systems so about the axis of solar systems. And so that, of this solar system, there were the earth, and about its axis, plants; and about the axis of the plant, the animal; and about the axis of the animal, man; to whom, in reason, if not in consciousness of such universe of life, there were such nature inclusive of himself, and his conscious being in reason of such nature. This resolution of such universal spheroid were the teleologic evo-involution of such spheroid, and this were its nature. And to man, therefore, there were such "nature

of an universe of life," if there be such life, whether this be being finite, or the word of God, or simply, that in the physical forces, space and matter.

## CHAPTER VI.

### Of This, as Being Finite, There Were Nature.

But in the proof of this there are peculiar difficulties. In the Geometric or other physical problems, there are the diagrams of magnitudes and the definite terms through which these magnitudes, dynamic or static, may be expressed. But in this, of a nature of being finite in life, there is no diagram accepted, and there are no terms so definite as that through them the magnitudes may be compared. The terms "force," "space" "matter," "life," "nature," "being finite," "being physiological," and "evo-involution," "teleologic," are so unmeaning as are the shadows of any substance otherwise invisible; and that conscious being in man, through whose affections only are his perceptions of such life and nature, is itself such being finite; and to such conscience, in proof that of such life there is nature, the difficulties are greater than in the establishment of any other truth.

But great as they are, they are not insuperable. The human conscience, however unable to conceive itself as being finite, or as of the beings finite, it perceives, does yet perceive that there are beings finite—not being infinite—and that in, and to, these and the every one of these there are cause, and consequence, in that course of cause into its consequences, possible, we term nature. And perceiving that, of some cause, there is that we term nature as the consequence, and hypothecating being finite in which there is cause of that consequence, seen as nature, it can and must perceive that there are steps possible from that causal state of being finite to its consequential state of nature; and so perceive, not only, that of such life there is nature, but the steps by which there is such life into nature—in seeing by what steps there can be an universe of life into an universe of nature, or an universe of nature from an universe of such life.

And it may be shown that, of being finite, there were such steps. It may be shown that, this were of beings infinite in reciprocal limitations at each other, and that of this being finite, there were an universe, and this, exclusive of other being, in that universe. That this were being physiological, that this were in tel-

eologic evo-involution, and that of this, in such evolution, there were the beings possible from the universe to man.

It were being physiological—the possible of beings different of their reciprocal affinities simply in reciprocal limitations of each other, in production of an intermediate and exclusive being of them both. But it were not only, by hypothesis, such being physiological but it were, in fact, such being. There were infinite beings, but as they be both, or all, of the same essential elements, and they were different but as they be of those elements inversely, and any two such atomic beings finite adjacent, were reciprocally vacua and reciprocally plena. Each, to the extent of its deficiency of that element of being of which the other had excess, were in want of that element, and, so, were vacuum. But each with respect to its own special being in the other, of which it was not in want, were plenum.

And so, vacua reciprocally, they were reciprocally attractive; and so, plena reciprocally, they were reciprocally repulsive. And so, of their reciprocal attractions, they were in penultimate coincidence on the axis of their neutral being intermediate, existing in the shortest line between their centres. But, of their reciprocal repulsions, they were in penultimate differentiations thence into radiations of their common beings at right angles to such axis, and into a disk of their common beings in revolution on such axis. And this in production of what were an ideal wheel of the one atomic infinite at its place, prepotent, in revolution on its axis of the other, at its place, prepotent. And this, a wheel, of which the axis were in evolutions of its special beings to produce the disk about it, and the disk in involutions of its special beings to produce its axis of revolution within it.

Of any two such atomic beings, whatever their volumes, or states of advancement from their original state of being finite, simply in the limitation of one such atomic infinite by another infinite as itself—being opposite, reciprocal and complementary—they were necessarially at issue in their special modes; and, with respect to any definite direction of their common being from the prepotency of either, they were being oppositely, and the one, were to an intelligence at the axis, fast and the other slow. And, in meeting on the line of their neutral being intermediate the centres of their special beings, the fast were as screw to the other nut; and the screw to penetrate the nut, and, from its more rapid special being, to disrupt the nut, and project it in rays of screw and nut to the distance to which the energy of the fast could just move the inertia of the slow; and at which the inertia of the slow could overcome the energy of the fast. And at the distance

continuously about the original axis of reaction there were a limiting membrane of such locally inert moments as is the rim of the wheel about its indefinite spokes in radiations to sustain it.

And this wheel of spokes and rim were in revolution on its axis; and from left to right of him who looks along its axis from the fast into the slow; and from right to left of him who looks along it from the slow into the fast; and from the axis there were eccentric radiations of fast into slow, and from the rim there were concentric radiations of slow into fast; and there were levity, or what were analogous to heat radiations from the earth, in the fast from the axis decreasing to the rim, and gravity, or what were analogous to concentric cold radiations to the earth, from the rim decreasing to the axis.

Such were the unit of being finite and such were the universe of units. And this were being physiological in that it were the being possible of kindred beings different of their reciprocal affinities simply in reciprocal limitations of each other; and it were being physiological in that it were being natural. We are conscious of but two orders of beings with us at this earth, the one of nature, and the other, art. And the natural, that of beings to be termed realities from their comprising within themselves both cause and consequence, and the cause of their beings consequence and the consequence of their being cause. These, the inherent cause of inherent consequences and the inherent consequences of inherent cause—and the one the axis and the other the disk of the finite wheel—may be termed the *physes* of that wheel physiological; and the atomic natures of that molecular nature, and the atomic factors of that molecular product. So that, without other being *ab extra*, each of its physes is the original, self-exsistent, automatic, and autonomic being physiological, of its own beings, simply at its time and place, such as is the moment of force, or the molecule of matter, or the animal, or plant, or earth or sun.

But such are not the works of art. These, not of cause and consequences inherent, are not realities, therefore. And not of physes—self acting of their affinities for each other, merely—are not beings physiological, and, not of atomic natures, are not natures; but are perversions, or, at most, but modifications of nature through forces in nature developed by the activities of man. Such being natural were being physiological, and, in that, as the being finite were being natural, it were being physiological.

And it were being physiological also, in being that word of God through which he has expressed his will in the beings of it possible. This can have been through theoi or through physes,

but he has used the physes, and these are those seen in stars, sun, earth, plant and animal from the universe to man—each a being physiological, and so, also, must be the being finite of which there are these beings finite—each but the nature visible of life invisible, and both but the physes of that being physiological.

This, also, were in a process of its being to be termed teleologic evo-involution. That process of such beings different into the wheel of both were evo-involution. There were, in it, evolution of the axis to produce the disk and involution of the disk to produce the axis, and thus, in every being finite, whatever its volume, or state, there were, to its being possible, evo-involution. But, in its course at any time and place of being possible, it were in successive such evo-involutions, the process of which were to be termed teleologic evo-involution.

Every such successive evo-involution were in its throwing out from its rim in revolution, energetic beings in excess of its inertia; and these—fast and slow, and screw and nut—to react on axis exterior to the rim of the parent wheel, and in production of wheels analogous to the parent wheel, and homologous with such wheel; and these in revolutions on their individual axes and in orbits of revolution on the axis of the parent wheel. And these were at graduated distances from each other, each distance a quadrant of its orbit of revolution on the parent axis. Such as are the planets, forming about the axis of the solar system, in such evolution; and analogously such as are the matters successfully formed in the successive strata of this earth's crust, and as are the plants successively possible of the prime parent plant; and the animals successively possible of the prime parent animal. This were teleologic evo-involution, and thus every such being finite were in teleologic evo-involution, and this were its nature. And of the universal finite being, in such process, there were nature. And this, the nature seen from the universe to man by man himself, the ultimate product of that nature at this earth.

And if there be life, therefore, necessarily and by hypothesis, the causal mode of such beings infinite in such process, there were nature of an universe of life, contingent but upon the condition that there be such life.

## CHAPTER VII.

### Of This, as the Word of God, There Were Nature.

There is God but as cause of being in this universe. We have not seen God, nor do we know that there is God, but as we know that there are beings here, and that these are the consequences visible, of a cause invisible, which we personify into a being of illimitable volume, power and purpose, but still a being, and in moral likeness of ourselves, whom we term God. And such God were cause of nature consequent but through means, and but through means of his own infinite beings, and through these but as they be finite; and, these were finite, but as of their reciprocal affinities, simply, they be in reciprocal limitations of each other. And there were this but as it be in infinitesimal units, each a being of the God himself, and each a word in power and purpose expressive of his will irrevocably recorded in it, that at its every time and place it be its best and most to the best and most of the beings associated with it in expression of that will.

And this word of God's own beings; and of the universal God himself, therefore, were being physiological in teleologic evo-involution. And this were the nature of that word, and of that word there were nature, from its universe to man inclusive. And it were this for the reason that it were being finite, such being in such process, of which there were such nature. And it were this, in that there is nature of such being, in such process, for which there were no other cause. And it were this in that through such being, in such process only, were there the creative acts of God to the universe and earth, and beings at this earth, in nature.

It is not contended that the supreme originating cause of the universe and earth could not, through other means than of itself, have caused nature but, only, that it has no done so, nor can it have done so, in consistence with the common sense in beings inanimate and animate of an universe of cause and consequence.

Nor can we conceive of a supreme originating cause of being in this universe, but in terms of its own beings physiological, in teleologic evo-involution. We might assume without conception, as superstitious theology does, that the God can have appointed intermediary theoi to administer special providences which could not have been vested in his general word. But in the first place every such intermediary theos were, of God's own beings physiological in such process to the execution of its office, and the word of God, then, through the theos were as physiological as it were

without. And in the next place, there is no conceivable occasion for such special agency. The moment and medium of force and the molecule and compound of matter and the plant, animal, earth, sun and star itself, were the special and sufficient agent of eternal purpose to its special end in being possible. And as we cannot see, therefore, that there is, or could be, occasion for an agency to their being other or more,or less, than they can be, under the conditions of their times and places; and as there were no occasion for the theos or any evidence of its existence but as this itself, if it existed, were being physiological in such evolution; and as such being in such process were nature; and as of the word of God, the universal cause, there were an universe of such being in force, of the universe of force, of this as the word of God, there were nature.

The word of God were not only universal, but exclusive of other being in that universe of nature, therefore, but as it be such word of God. And thus of that word of God, as life, there were the nature of that life, in that the word of God as life were capable of nature, and if not cause of nature, it were cause without consequence, and, in that nature were possible of the word of God, and, if not consequence of that word, it were consequence without cause.

And it were the exclusive cause of nature, or God will have accepted other agency than that of his own beings to the execution of his will in nature; or, nature will have accepted other power and purpose than that of the word of God in life to its existence. Neither were consistent with the hypothesis of a word of God. And of an universe of life, therefore, as the word of God, there were such nature. And there were but nature of that word. There may be another word of God collateral to nature; and to make natures what they were not of that real word alone. But of this we have no evidence or science. In that real word there is the mandate to every nature of it, that it be, at its time and place, its most and best. And there is no nature that is, or can be, more. Nor is, or can be, even man. It gives to each plant, animal and man the priceless boon of being, and to its being possible; but it gives no more to man even—save the right to live to the extent of his contributions to it, in the civilization of his race. This is a tutilary moral being of the souls of its bettered men,which survives the generations of a race to rule and raise the generations coming. And beyond the boon of life, he has in the real word of God this reward, but has no more.

## CHAPTER VIII.

### And of This, as Force Simply, There Were Nature.

There would seem to be a noumenal being in the physical forces, space and matter, of which these are but phenomenal. This is where would be the being finite of the word of God, and it is such as would be that finite word. And it is probable, and demonstrable, perhaps, that it is that word. And that so of force there were nature, as of the finite word there is nature.

But without this, and of force simply, there were such nature. Of this, as being finite, or the word of God, there were an universe. But of this, as of force simply, there were an universe. And of this, as of the being finite or the word of God, there were being physiological and this were in teleologic evo-involution, and of the universe of this force from the universe to man, there were nature, as there were of the being finite or the word of God.

But without this, and of force simply such as is that, in phenomena of which are the physicial forces, space and matter, there were an universe; and this were being physiological. And this were in teleologic evolution. And of an original universe of force, simply, whether being finite, or the word of God, or not, there were nature in stars, sun, earth, plant and animal to man.

It were universal in that there were not an instance of force at any point of space within this universe, but as it be in expression of the resolutions of an universe of that force of which it is. Nor were there the moment of thermal, photal, electric or magnetic force, or the responses of the telephone or telegraph, or a sight, or a sound but of the equilibrium of an universe of force disturbed in restoration of which are the phenomena observed.

It were also being physiological in the being possible of kindred beings different of their reciprocal affinities simply in reciprocal limitations, in that such were the spark ot heat and light, from the minus and plus of electricity, so reacting, and such the magnet, from its beings north and south, reacting. And such the molecule of elemental matter from such reaction of its atoms, negative and positive, and such the matter compound of its elements, acid and base, and such the animal, of its male and female. There is the one of these but as under conditions, it be the being possible of kindred beings different of their reciprocal affinities, simply in reciprocal limitations of each other; and thus the being physiological.

This being physiological were also in evo-involution. These beings in such reciprocal limitations of each other, were in reciprocal intussusceptions of each other, but, in every such case of reciprocal intussusception, the one being were causal and the other consequential; the one expressing power and the other the purpose of that power. And the one were dynamic, and the other, relatively static, therefore; and, in coincidence and differentiation, from being reciprocally attractive and repulsive, they were, with respect to their axis of coincidence, the one eccentric and the other concentric, and the one in evolution and the other in involution of that axis; and the one in eccentric evolution from the axis into the other, and the other in concentric involutions to the axis into the one; in result of which were the ideal wheel, the disk of which were in revolution on its axle. And that process, through which there were this wheel, were one of evo-involution.

And such were the process of the spark of heat and light, the heat in evolution of light, and light in involution of heat; and such that of the magnet, and the molecule and compound of matter, and such the plant and such the animal, each of beings different, and eccentric and concentric, and these in evo-involution.

And every such evo-involution were teleologic, in that, in every one, the axial and dynamic cause must ultimately transcend peripherential and static consequence, and the eccentric radiations of the axle of this wheel physiological, the concentric radiations of its disk, to hold them. The dynamic being, to produce this wheel, must be continued from its source to sustain this wheel. And that, so continued, must ultimately transcend the disk at any time established, as the heat of the spark sustained must transcend its lights into further lights each as progeny to the parent spark, and as the heat of the sun, transcends the sun into its planets; and the heat of the earth, the earth into its plants and animals; and as the life of the plant or animal, its successive natures, this teleologic evo-involution of force physiological, were its nature. And thus, of force simply, there were nature, and this by deduction simply from the hypothesis of an universe of force.

But, for the truth that, if there be force, there is nature, we are not dependent solely on deduction from hypothesis. It is not more clear that there is nature of force, from there being a force that could not be without nature, than that there is a nature, which could not be without force; and, having shown that, if there be force, at all, it is a force which could not be without nature, I now will show that there is a nature which could not be without force.

## CHAPTER IX.

### Nature not Possible, but of Force.

There is nature in a course of cause in being—through stars, suns, planets, and this earth, and the plants and animals at its surface—from the universe to man. And this nature is possible, but of an universe of force, or an universe of that universal being, however it be termed, of which the physical forces are in phenomena.

There were not stars, but as they be bodies of matter, each a system of such bodies, each in revolution on its axis and in its orbits of revolution on the axis of that stellar system. And there were not suns, or smaller stars, but as they be bodies of matter, each a system of such bodies, each in revolution on its axis and in its orbit of revolution on the axis of that solar system. And there were not planets, or smaller suns, but as they be bodies of matter in systems of such bodies each in revolution on its axis and in its orbit of revolution on the axis of the planetary system; and there were not this earth, a planet, but as it be a body of matter in a system of such bodies, each, potentially, at least, in revolution on its axis and in its orbit of revolution on the axis of the earth. And there were not the plant, but as it be a body of matter in a system of such bodies, each, potentially, at least, in revolution on its axis, and in its orbit of revolution on the axis of the plant. And there were not the animal, but as it be a body of matter in a system of such bodies, each, potentially, at least, in revolution on its axis and in its orbit of revolution on the axis of the animal. Nor were there the star, but as it be a projection of the universe, or a sun, but as it be a projection of the star, or the earth, but as it be a projection of the sun, or the plant, but as it be a projection of the earth, or the animal, but as it be a projection of the plant. And there were not these projections, but of the being, from the axis of an universal being and there were not this being but as it be force, such as is that in phenomena of the physical forces, invisible in space and visible in matter, and, this nature, there were not this nature, but as it be of an universe of force.

And it were not, but of an universe of force, for the reason, as we have seen, that an universe of force were capable of such nature; and, capable, were cause of such nature, which then were consquence of such force. And for the further reason, that such nature were possible of such force; and, possible of this, it were consequence of this, and of nothing else.

And, conceding that there is such nature, there will remain to the question of whether this be of an universe of force hypothecated, but the further question whether this nature be possible of force such as is that in the physical forces, space and matter, and without the hypothesis of this as the being finite of the word of God. And it is possible, for the reason that this nature, and the every one of these natures, is of, and, but, of, that being in the physical forces, space and matter, and is in, and, but, in, the modes of such being force.

The every nature is but of such force, in that it is of space and matter, and space which, under static force sufficient, is reduced to matter, and matter which, under dynamic force sufficient, is sublimed to space the intermediate and common being of which, therefore, is that force of the transformation of which, essentially, is every nature.

And the every nature is of such force, also, for the reason that of space and matter—the common beings of which are the physical forces—are of the same elements inversely, in that they react with each other, and of the same elements as matter in that they react with matter, and of the same elements as space, in that space, by force, is reduced to matter, and matter, sublimed to space, which were possible only of the reactions of force, space and matter; possible, but as they be of elements the same, and but as these elements of space and matter be those of force.

And the every nature being thus of force, the modes of being, in every nature, are the same as those of force, and of an universe of the elements of force, reacting as they do, there were the nature that there is from the universe to man.

This will appear, in that force, is being physiological, in teleologic evolution, and that nature, is being physiological, in teleologic evo-involution; and that, whether we take force, or nature, or the being noumenal or the being phenomenal, there is equally that being from the universe to man we term nature. And that as there is not force without nature, there is not nature without force. And this will appear in the fact that every phenomenon of nature, is a phenomenon of force, and every phenomonon of force, a phonomonon of nature, from which it will appear that force and nature are but obverse aspects of the same essential being and the one, the cause, of which the other, is consequence, and the one the life of which the other is the nature.

## CHAPTER X.

### The Phenomena of Force are Those of Nature.

The first sensible phenomena of force, perhaps, are in the attractions, repulsions and gravitations of matters; and the first objective and examinable phenomena, perhaps, are in the minus and plus electricities as they appear at the poles of the battery; and in the magnetisms, south and north, as they appear at the poles of the magnet; and in heat and light, as they appear in the spark from the meetings of electricities producing it. But after these there come to be innumerable such phenomena, physical, in the reactions of the physical forces with themselves and with matter, and in the reactions of matter at a distance, or in contact, merely; and chemical, in the coincidences and differentiations of matter in productions of intermediate matters compound; and physiological, in organic matters plant and animal. And in every instance the phenomena are, analogously, the same as those of the electricities minus and plus at the poles of the battery in production of the spark, and these analogously the same as those of nature in matter from the universe to man.

There is a tendency in those forces of the spark to meet upon an axis of the shortest line between them, and when they are on electrodes near enough, they do meet, and, if in sufficient quantity, in production of the spark of heat and light, but the sensible consequences of an insensible cause. And we term minus, plus, heat and light, forces, while obviously they are but the visible consequences of a cause invisible. Of some invisible cause there are the electricities at the poles of the battery, and their reaction into heat and light. We may say that this cause is the force, physical, or chemical, on the matter, solid or liquid, of the battery. But, while the cause may be in that force, it is not that force, but is an indefinitely attenuated fluid something, to which that force but gives the channel, and of which that force, itself, is consequence, as are the electricities at the poles of the battery, and as is the spark from the meeting of electricities, or the factors of any other force.

Of these consequences, therefore, there is a cause. And of these phenomena, a noumenon; however we esteem the phenoumena the only things there are. And that noumenon, in administering itself in phenomena under the conditions possible, is a moral being cause in administration of its physical beings consequence. And taking the spark as the most familiar instance of such cause in its consequences, it is seen that the cause of the

spark is not in the minus and plus alone, but in a something intermediate to compel their meeting. And that it is not in the heat or light of the spark alone, but in a something intermediate to compel their forming into heat and light, and which forces them to exist in relation to each, and in a disk of light about its axis of heat; and which, from their respective positions, forces them to react—the one in eccentric rays of itself in production of the other, and the other in concentric rays of itself in production of the one—as do the electricities in the charged conductor insulated—the minus in production of eccentric heat, and the plus of concentric light; and as do the magnetisms in the magnet, the south representing eccentric heat and the north concentric cold in light. There is reason that in every spark there are innumerable rays, and that each ray of the spark, from heat into light, and light into heat, is the charged conductor of an electric being insulated, of which heat is the minus pole and light, the plus. But that it is also an electro-magnetic system of heat and light about the axis intermediate, the poles, in which heat is electricity, and light, magnetism, in its effort to play in its orbit about its axis of heat, as magnetic moments play in their circles about the axis of electrical reactions producing them, while both are but such consequences of such cause in the electricities reacting.

And, reason that such is the spark, there is reason that it is of cause and consequence, and of moral cause of physical consequences; but that these are represented in its constituents, and that heat, of the most of cause to the least of consequence, is in representation of cause, and light of the most of consequence to the least of cause, is in representation of consequence. And with respect to the spark, therefore, as a whole, that heat is moral, and light, physical, but that with respect to itself, light is itself the moral cause of its special beings in physical consequences of that moral cause, of itself, in heat, while both heat and light are the physical consequences of a yet anterior moral cause in that insensible being of which both consist.

And such the spark, as an instance of force, analogously such are other instances; and analogously such is nature in every nature from the universe to man, and such the molecule and compound of matter, and the plant and animal and the earth itself, and the solar system and the universe. The molecule of matter is of atoms negative and positive, analogous to the electricities, minus and plus. Each in consequence of inherent cause and forced, of their affinities of such cause, to meet on the axis of the shortest line between their centers in production of the molecule of their beings different,

both in one, this one is analogous to the spark, in which the negative is heat to the positive, light, and in which the negative is specific heat and the positive, atomic density, inversely. And the negative is in eccentric radiations and the positive, in concentric; and the negative in representation of the moral cause, and the positive of its physical consequences; and both together are but in representation of the moment of electro-magnetic force in its magnetic disk about the electric axis of reactions to produce it. And such also is the matter compound, of which the acid element is heat, and the basic light, and the one eccentric and the other concentric, and the one electric and the other magnetic, and the one causal and the other consequential, and the one moral and the other physical, but both the physical consequences of their moral cause, in production of such compound.

Such, also, is the plant of its principles, staminate and pistillate, the staminate acid, and the pistillate, base; the one negative and the other positive, and the one minus and the other plus, but both such consequences of such cause in production of the plant.

And such, also, is the animal of principles male and female; the one staminate and the other pistillate, and the one acid and other base, and the one negative and the other positive, and the one minus and the other plus, but both such consequences of such cause in production of the animal.

And such, also, is the earth itself of its principles eccentric and concentric, the one from its center of included force termed space, which, in its eccentric radiations, appears in heat, and the other, from its exterior envelope of force, also termed space, which, in its concentric radiations into the eccentric of heat, appear as cold, and which, reacting into each other about the earth's center, produce the matters of the earth's crust, the one male and the other female, and the one staminate and the other pistillate, and the one acid and the other base, and the one minus and the other plus, but both the physical consequences of such moral cause in production of the earth.

And such, also, is the solar system of its principles solar and planetary, the one in the axial sun and the other in its disk of planets, reacting through the center of the solar system near the surface of the sun with a force which does not, or has not yet, become matter, but which, as radiating space, is sufficient to sustain the sun and planets exactly in their orbits about that centre.

And such the stars, in physical couples about their centers of reaction intermediate, about which centers there are not mat-

ters, as there are not about the center of the solar system, but from which centers there are radiating forces sufficient to place and retain the stars in their respective orbits about their center of reaction.

These forces are eccentric and concentric; and eccentric in repulsions of the stars from those centers, and concentric in attractions of the stars to those centres. And these forces are also inversely reciprocal and alternate between the stars themselves, which are in distances from that center inversely as their magnitudes, and which revolve about those centers as do the visible rims of invisible wheels about their invisible axis, and in periodic times inversely to their distances.

Thus, taking the spark as the most familiar and available instance of forces invisible into forces visible, and of cause into its consequences, and of noumenon into its phenomena; and following its suggestions up through the molecule and compound of matter, and the plant and animal and the earth and solar system, to stars in couples, we see that these are all the consequences visible of causes invisible, and the physical consequences exterior of an interior moral cause in operation to produce them.

In the spark, molecule, compound, plant, animal, earth, system of sun and planets, or stars, or in the universe of stars about the center of the universe, there are but the physical beings, each of them inert and lifeless, but as, of their relations to each other in partition of the physical being of the universe, there be in each its moral being to administer, and, to their most and best, at their times and places, its physical beings possible; and thus it is in these, but phenomena of force, that there is moral being in administration of its physical phenomena. And as in these, so is it, for the same reason, in all other instances of force, and so also in every instance of nature that there is in it such moral being, and this the causal and purpose principle of the finite word in execution of the power committed to it in that word.

And such, force, in several of its aspects, in each it is plainly physiological. Accepting that, as the being possible of kindred beings different of their affinities simply in limitations of each other, such is force as typically instanced in the spark of heat and light. This is of electric beings minus and plus, and these are kindred. They tend to penultimate coincidence and differentiation on and from the central point of their common being intermediate, as they would not, if not reciprocally attractive and repulsive; as they were not, if not vacua and plena reciprocally; as they were not, if not of the principles of one common being inversely; as they were not, if not kindred. So, kin-

dred, they are, as necessarily, opposite, reciprocal, atomic and complementary with respect to the molecular and molar states of their common being intermediate, and so are different.

And so, different, and attractive and repulsive, of their reciprocal attractions meeting on the shortest line between their centers, their reciprocal repulsions come into play; the one to so much of its special being as is in the other, will be repulsive, and the other to so much of its special being as is in the one, will be repulsive. And when their centers shall have come to the point of penultimate coincidence there will have been the eccentric radiations of their special beings, united from the axis intermediate as their center, and these from their reciprocal repulsions so coming into play. But in every such eccentric ray from these repulsions there were also a concentric ray from their reciprocal attractions. Of these possible radiations there were a disk of a wheel, of which such radiations were the spokes, and in every spoke there were repulsion out from the axis, and attraction into it. And repulsion were sensible to touch as heat, and attraction, as cold, and repulsion were sensible to sight as dark, and attraction, as light. And thus the spark would appear to touch as heat simply, but to sight as a circle of light visible about its included centre of heat invisible.

Such is the theory of the spark, from the meeting of electricities at the point intermediate the electrodes of the battery producing it, for which there were no other conceivable cause. And that the spark we see is in the fact of such electricities so meeting is apparent in that there is the spark for which there were no other cause assignable than that in the meeting of such electricities. Nor were there the spark from such electricities so meeting, nor were the meeting of such electricities, but as they be so related to each other and be of the same elements inversely, and vacua and plena, and attractive and repulsive, and but as they so resolve of these into such wheel about its axis in physical consequence of moral cause.

And that of their meeting in sufficient force, there is the spark of heat and light is in the fact that of matters meeting in sufficient force there is heat and light. If planets approach each other there is heat developed intermediate. And as comets approach the sun they become luminous, while at more distant points of their orbits they are opaque. And if balls, of even platinum, meet from opposite directions with velocities sufficient, there is not only heat and light but they explode into what, at a sufficient distance, will appear as a hollow sphere of light about a solid sphere of heat in radiations to produce the light.

And that this is the result of such electricities in reaction is more clearly seen in the flame of the candle. Of the candle the wick is of carbons hydrate, and this, surrounded by hydro carbons. And of the match to the wick of carbons hydrate, there are the electricities minus and plus developed, to react as these do between the poles of the battery in production of the spark, which, itself, becomes the force to produce other sparks, to produce others indefinitely, or so long at least, as there are the hydro-carbons in the candles to sustain its process of electrical productions. The candle, therefore, is an automatic battery, whose flame is the force to produce the electricities to support the flame which, examined, is found to consist virtually of a hollow sphere of light about its solid sphere of included heat. The flame of that candle, burning at this earth's surface, is not distinctively spheroidal, but is in the form of a cone of heat about which is its hollow envelope of light. But there is reason that this is due to the fact that the earth itself is analogously a spark of heat and light from electricities reacting on its axis; and that the radiations of these have not been exhausted in production of the earth's crust, but that there are yet invisible radiations from its surface of matter into space, under force of which the flame of the candle, which were spherical without this disturbance, is made to point with such radiations away from the earth, and, in doing this, to assume the form of the cone it presents, while the flame itself, but the resolutions of the electricities so reacting to produce it as from a battery, not so automatic, they produce the spark, were, but for this, spheroidal as is the spark.

There is reason therefore that the spark is being physiological from being of such beings different in limitations of each other. And that so, also, is the axis of the spark, and its disk, and its every radiation, eccentric and concentric. And this by a process to be termed evo-involution. That there is, in the way stated, the evolution of the axis to produce the disk about it and the involution of the disk to produce the axis. And that these processes, so reciprocal, are automatic in every instant spark, and are more obviously so in expression of any continuous current of electrical reactions in which there are the evolution of the axis to sustain the disk and involution of the disk to sustain the axis.

And also that in every such being physiological this evo-involution is teleologic. That evo-involution of force, or other being physiological, is teleologic when, from the parent being in force of the electric beings in coincidence to produce it, there are

progenital beings in its radiations about its axis, or in its axis, to extend it. There were this in the formation of progenital sparks in successive circles, each spark on its own axis but in its orbit of revolution on the axis of the parent spark. And there were this, also, in the elongation of the axis of the parent spark by successive sparks from its anterior extremity, this being the point in the plus the most remote from the minus pole of the battery producing the electricities. By the one mode of such evolution there were the radiate spark in extension of its disk about its axis, and, in the other, there were the elongation of the axis through successive disks about their axes and from the minus pole of the battery towards the plus.

Regarding the spark as the product possible of the electricities at any instant existing at the poles of the battery, these are instantly expended in its spark possible, in its disk possible, about its axis possible, in which the axis is in eccentric radiations to extend the disk, and the disk in concentric radiations to elongate the axis. And without other installments of such forces from these sources there were nothing more than the instant existence of such spark within which its original forces will have reciprocally intussuscepted and neutralized each other. But, if from the original battery, as a continuing cause of such electric consequences, there be these in continued coincidence or in increasing quantities on the axis of the original spark, there were first the enlargement of its disk to the extent possible. But next there were the projection of the axis to another point in its line towards the plus about which there were formations, towards the plus analogously the same as those about the first. And of this, continued, there were from minus to plus a line of beings possible, the first, as in the animal, the radiate, in progenital radiates about the parent radiate, and next the annulate of such radiates as successive sequents of such line.

This were teleologic evo-involution of the spark physiological, and it were, analogously, such as were that of the plant, supposing that to be the product of electric forces from the earth as the battery producing them.

There are eccentric radiations in heat from the earth's surface, and concentric radiations of cold from its atmosphere. And these may be supposed to be eccentric and concentric radiations of electro-magnetic forces from electrical reactions on the axis of the earth. It may be supposed that of the enormous forces, electro-magnetic, possibly, by which the earth is sustained in its orbit about the center of the solar system, there may be minus or electric force through the south pole of the earth, and

plus, or magnetic through the north, and that these meet continually on the axis of the earth in radiations eccentric and concentric, thence at right angles to its axis. And that the eccentric element of each radiation is minus and the concentric plus, and that minus in every such ray is from, and the plus peripherential to that axis. And that every such ray, therefore, is as is the current of electrical reactions in the insulated wire about which there is the circular current of magnetic moments moving oppositely. But so as that while every ray at its start is electrically prepotent, at its end it is magnetically so; and so as that while it is the tendency in the electric portion to produce and sustain the magnetic portion in its reaction, it is the tendency of the magnetic portion generally to return, by the electric, to the earth's axis, its special tendency is to segmentate this ray in the formation of separated disks about its successive points as axis, thus dividing every ray into parts analogous to the stem and disk of the agaric mushroom, projecting from its source at the surface of the earth.

And such the earth's supposable radiations, electric up to and from its surface, and magnetic down to its surface from its exterior atmosphere of such magnetic force, each ray becomes a battery of electric and magnetic forces opposite. And supposing, as we may, that electric force is minus, and magnetic plus, there is thus in the earth the polar source of minus electricity and in its atmosphere the polar source of plus. And that these react into the intermediate plant, as from the poles of the battery they react into the spark. And that the plant and spark differ but as do the batteries which produce the electricities which produce them.

So, analogous in their sources, they are so analogous, also, in their process of teleologic evo-involution. And, assuming an identity in the essential beings, of which they are, the beings of the plant, present an object lesson of teleologic evo-involution in the spark.

The plant first appears in a cell of opposite and staminate and pistillate principles, reacting—the one analogously minus and electric, and the other plus and magnetic—and involving radiately through the formation of magnetic beings in the extension of its disk about its axis, and annulately, in the formation of successive such magnetic disks about, and in extension, of its axis. The first is seen in cryptogamic plants below the equisetum. And the next in the equisetum and fern, each rising or extending by successive joints.

The first is also seen in every section of the endogenous plant, in every one of which the formations are seen to have radiated circularly from its axis, and the next, in the successive germinations of that plant, each in progeny of its immediate antecedent. But both m· des articulately presented in the exogenous phanerogamic plant.

In this the staminate and pistillate principles are expressed, the one in its roots and the other in its branches. Through its roots, as absorbents, it takes organic acids from the earth and, through its branches, organic basis from the air, to the crown of its roots, as their axis of reaction, in production of the fluids to sustain itself. And—the acids minus and the bases plus—through its roots, as conductors, it takes minus electricity from the earth, and through its branches as conductors, plus from the air to the production in that axis of such fluid sparks. But in its roots and branches, both in representation of the earth and its minus, therefore, and in its bark and foliage, in representation of the earth's atmosphere and plus, there are secondary reactions on this fluid force resulting in the tissues of a combium layer intermediate the wood and bark, from which there are periodically layers of wood and bark in enlargement of the plant. And this were teleologic evo-involution, if there were nothing more.

But there is, further, such evolution in the buds periodically projected from the ends of branches, the each of which is a progenital enlargement of the parent plant in physiological revolution on its own axis and in its orbit of revolution on the axis of the parent. And, further, such evolution in the flower maturing its seed to the start of another such, which, though physically detached from the parent plant, is its discontinuous reproduction of itself, and is as truly its teleologic evo-involution of itself. So that, whether in such expansion of its disk, or such elongation of its axis, or such articulation of itself into roots and stem, or into wood and bark, or in continuous reproduction by buds, or discontinuous through seed, the exogenous plant is as simply a being physiological in teleologic evo-involution as is the spark of heat and light.

But the analogy of the exogenous plant to the spark is not so perfect as is that of certain subterranean cryptogams. There are mushrooms, or fungoid formations, that never come to the surface of the soil, which are spherical, therefore, and without roots or stem or wood or bark, and whose substances are of as indifferentiated radiations of themselves from their central axis as are the radiations of the spark, and which differ from the spark but in that they are of matter and the spark of forces. And re-

alizing that force and matter are essentially the same, and that force is invisible matter, and matter but visible force, we realize that this subterranean plant and the spark are essentially the same, and that obvious analogies of the exogenous phanerogam of any ærial plant, in fact, is not to the spark of electricities reacting from an undifferentiated medium of their own being, but to the candle from continuous sparks from one medium projecting themselves into another and which takes the form of the cone as does the ærial plant, from its base, at the surface of the earth.

Nor, closely considered, does the ærial plant in fact differ from the candle flame in that the one is of matter and the other is of force. Such plant does take by its roots organic acid matters from the earth, and by its branches basic matter from the air, but it is not certain, or probable, that these matters go directly into the growing plant; but it is rather to be supposed that these matters are reduced to forces in the axes of plants, from which are formed the nitro-carbons hydrate which compose the plant. And that the plant, therefore, is as simply a force physiological, in such process, as is the spark.

It is thus that the plant presents an object lesson of the teleologic evo-involution of force. And so, also, does the animal which differs from the plant only in relation to the sources of the forces of which it exists. In the animal there are sulphur and phosphorous, not in the plant, as elemental constituents. But in addition to the reason suggested, that all matters are of force, and, therefore, essentially the same, there are special reasons that sulphur is but doubled oxygen and phosphorus but quadrupled nitrogen. And assuming identity in their elemental constituents, they differ merely in their relations to the sources of the forces of which they exist. The sessile plant at the earth's surface, is merely the passive product of the earth's eccentric and concentric forces reacting in it, and through it to the plant by teleologic evo-involution possible. But the animal, not so situated, is not so sessile or passive, and instead of procuring its forces by conductors of roots and branches from the earth and air, it can procure them only from the plant in which they have been stored.

To this the animal, as a force physiological in such evolution to being possible, must come to have locomotive and prehensile organs, and also organs of sense to co-ordinate the activities of its physical articulations in their respective offices in procuring the means to the continuation of its existence. And such its situation, it is in relation to the plant as is the disk of

every force physiological in relation to its axis. In the disk of every such force, in such process, there are the formations possible under the conditions from its axis. And regarding the axis as electric and the disk as magnetic, there is at every point in every such disk the magneto-electric being possible, as at every point about the conductor in which there is the current of electrical reactions. And regarding the plant as the conductor, in which there is the current of electrical reactions at every point about that electro-magnetic plant, there is the magneto-electric animal possible, as about the electro-magnetic axis of every spark there are the magnetic electric sparks possible, and as about the electro-magnetic axis of the solar sytem, there are the magneto-electric planets possible.

And such the animal, if it be not in analogy to the parent spark, it is in analogy to the progenital spark by teleologic evo-involution of that parent spark. And in the first fertile ovum of the animal consisting of sperm and germ, its male and female, and electric and magnetic elements, reacting, or, from force of heat, in condition to react, there is being physiological, and of this, in teleologic evo-involution simply to the conditions of its existence to its best and most, there is every animal possible from the amoeba to the two-footed and two-handed vertebrate inclusive, as an object lesson of the processes and possibilities of forces physiological under such conditions.

And such, also, is the earth. The analogy of the earth to the spark of electro-magnetic force, from the penultimate coincidence of minus and plus electric force between the poles of the battery producing them from matter, is more perfect than that of the molecule of matter or the matter compound, or the plant or animal. Both spark and earth are of electric forces delivered from their electrodes. In both, these forces are so coincident in production of an electro-magnetic spheroid, by evo-involution, and this in revolution on its axis and in its orbit of revolution on the axis of coincidence.

These facts are not so apparent from inspection of the spark, but are only to be inferred by inductions of phenomena elsewhere observed. And with respect to this, the only fact certainly perceived is that it is of the nature of electricities delivered from electrodes. But while it is not seen that the earth is from such coincidence of electricities delivered from electrodes, it is seen, and more clearly than in the spark itself, that, supposing such coincidence of electricities on the axis of the earth intermediate its poles, there is of it the electro-magnetic spheroid, in teleologic evo-involution, and that this is in revolution on its axis and in

its orbit of revolution on the axis of coincidence through the center of the earth.

Nor is there wanting evidence to show that the earth is of electric forces delivered from its battery. The earth is now sustained and moved in its orbit by repulsive and attractive forces from the center of the solar system. These can be no other than minus and plus electric forces, the one repulsive and the other attractive, and each its own electrode from the poles of that battery to the point of their possible reaction on the axis of the earth. And the conclusive force of this evidence, admitted, it is seen that the earth is such as would be the spark in its place from an equal amount of electricities reacting to produce it.

There were such coincidence of electricities on the center of the earth, but through the poles of its axis north and south. Such electricities can have been self-conducted to where the earth is in its orbit, but in radiations from the focal center of the solar system. Each ray can have been, but, of these forces, minus and plus, the one repulsive and the other attractive, of the center of the system, and the one repulsive of the other and the other attractive of the one, at every point of their course, as such spiral of parallel spirals about their axis to the point at which repulsion became insufficient to resist attraction, when there were their penultimate coincidences and differentiation on the axis of the shortest line between them at that point, in production of the spheroids of both in revolution of the attractive on its axis of the repulsive, parallel to the axis of the central system. And as this central axis were in revolution, for the reasons stated, this spark of force, so formed, were in revolution on its axis and in its orbit of revolution about the central axis and in, or near, the plane of its equator.

Of radiations out from the axis of the solar system, all will have been at right angles to that axis, and the point, of coincidence so distant from that axis as is the earth's orbit, will have been in, or near, the equator of that axis, and thus there were moments of electro-magnetic force at or near the same distance from that axis and circularly about it, and each an orb in its orbit about the axis of the solar system and in, or near, the plane of its equator.

But as there were such orb in every one of such innumerable rays, these orbs occurring from the same cause at the same distance from the central axis and of their reciprocal inductions and in a circle, that circle will have broken into quadrants, and of these the axes will have united in one common axis, and their disks into a common disk in revolution on its axis parallel to the

axis of the system, and in its orbit of revolution on that parent axis, analogously such as is the earth to the center of the solar system.

Such, the earth were physiological of beings different as is the spark, and of the spark in its possible teleologic evo-involutions it is a luminous illustration. There is reason, for which there is not now the time, that about the center of the earth there is a region of what were that seeming void we term space, but, from the fact that in it there is an intensity of that repulsive being we term heat, and that about this there is a crust of that apparent plenum we term matter. And this in strata, the first of the densest metallic matters and the next of metallic oxide matters in solid rocks, and the next of hydrogens, oxide in liquid, water, to the exterior of which there is an atmosphere of force from the radiations of forces eccentric and concentric, from and to the earth, and which, at definite distances from the earth's surface, meet in coincidences on the axis of the shortest lines between them in productions of spheroids of both, revolving on the axis of the one; which spheroids, of their reciprocal inductions, unite in larger orbs potentially in orbits about the axis of the earth, but which. from the earth's attraction being greater than its repulsion, fall in drops of rain.

In this, the earth is analogous to the spark, or candle flame, in so far as there is its center of non-matter in being hot, surrounded by its envelope of light or matter in being cold, and in its center of electricity surrounded by its envelope of magnetic force. And so far the evo-involution of the spark, is reproduced in the earth, but the earth goes further, and, in its crust of matter and in the strata of its matter and in the matter of such strata, and its forces radiant to the exterior, in productions first of water, and of this into the plant, and of this into the animal, it shows what more than in the spark there is of that force of the word of God of which there is the spark.

In the spark the magnetic envelope appears only in light, without anything to suggest the depth of possibilities within it. But, possessed of the situation of light as the nucleating cause of that electric being, there is at the center of every being physiological from impulses of which are its activities, that light becomes the veil behind which are many mysteries of which, at this earth, are those of the earth's archean crust in strata of inorganic matter and in its organic crust in strata of plant, animal and man.

It is not true, perhaps, that the light expressive of the magnetic member of the electro-magnetic spark, either of its own

motions or of those responsive to the suggestions of included electricity, resloves itself into such beings, or beings analogous to these, appearing in the earth's crusts. It is rather to be supposed that the magnetisms about their cone of electricity are as much of forces from the medium of static being, in which the spark begins to be, as from the electricities in the spark. And magnetism may quite aptly be termed the machine through which nucleated electricity works up into matter, that medium of force physiological in space from which it originally began to be.

It is possible that magnetism is the neutral area of that being of force physiological of which the one polar force is in the pulsations of constricted electricity and the other from that exterior medium of original being about it from which the constricted electricity was originally excluded, and that the cordon of magnetism drawn around the electricity is not more the work of such electricity than it is of that original medium from which electricity, through magnetism, is, in self segmentation, and that electricity and magnetism are merely the minus and plus, and that the poles of the battery and magnet are in representation simply, the one of being physiological in the process of its formation into a special being, and the other, that general medium of being physiological from which the special undertakes to form.

But, however this may be, it is clear that the phenomena of force are those of being physiological, and that force is being physiological, and that this is in teleologic evo-involution, and that this is causal and consequential and, the causal aspect, life, that the consequential is nature, and that of an universe of force in nature, there were such natures as there are in forces, matters, plants, animals, man and this earth, itself, the every phenomenon of which is one of force.

And accepting that the phenomena of force are those of nature; and that there is nature possible but of force; and that force is the essential substance of space and matter, and that this is that of being finite the only possible word expressive of the will of God in the natures of this universe; and that this is being physiological in teleologic evo-involution of which there were the natures from the universe to man; and that this were from modes of its being opposite reciprocal and complementary, of which the one were dynamic and the other static and the one causal and the other consequential, and the one invisible and the other visible, and the one life and the other nature, so that there were not life without nature or nature without life; we must accept that to the human mind in entertainment of the

question, this nature of an universe of life were probable. And that it is true there is such nature if it be true that there is an universe of life. Whence there will remain but the question—to the general nature exclusive of man, himself—whether there be an universe of life. And to a nature inclusive of man—the question whether man be of nature. And it will appear that man were of nature if there be nature. And it will thus appear that not only is it antecedently probable that there is nature of an universe of life but true that there is such nature if only there be an universe of life. And as there were life but as of this there be an universe, there will remain but the question whether of life at any point within this universe there be an instance of its existence.

## CHAPTER XI.

### And of Nature, Also, Man.

Thus, shown that there were nature of an univrrse of life, if there be life, it may be shown that of such nature there were man. Of such nature there were the stars, sun, earth, plant and animal from the universe to man with plants and animals at this earth's surface, and man were of this nature, if there be no reason why he be not. And there is no such reason. Admitting that the animal is of nature, and that of this there are orders radiate, annulate, articulate and vertebrate, and that of the vertebrate there are fish, reptiles, digitigrades, plantigrades and quadrumana, from which man differs, physically, in having two feet, only, but these equivalent to four, and two hands only, but these equivalent to four, and, morally, in having a superior organ of intelligence, through which to co-ordinate the activities of his feet and hands in procurement of more abundant provisions for his safety and subsistence, it must, for the same reason, be admitted that of nature also is man.

In all these animals there are, essentially, but the matter elements, oxygen, hydrogen, nitrogen, carbon, sulphur and phosphorus, and these in the same modes of reaction, physical, chemical and phsiological into the animal, under the conditions at any time and place possible. To every such animal there is the preservation and enlargement of its individual existence. And to the animal, as a whole, there is its advancement from the amoeboid radiate to the highest vertebrate, by variations favorable to the means of safety and subsistence available; to which variations it is moved by an inherent moral power termed its

life. And through this acceptance of opportunities, there will have been the radiate into the annulate of radiates, and this into the articulate, and this into the vertebrate fish, into the reptile, into digitigrade, into the plantigrade, into the quadrumana. And through this there were the further animal two-footed and two-handed. And through this there were that animal into agamic man in stocks, and him into polygamic man in tribes, and him into monogamic man in states under governments by appointment, of proprietary male parents, if only there be the means of subsistence available of such variations.

Without such variation of the antecedent into the sequent animal of a nature of reality in force, there were no nature, and each animal, at every instant of its existence, were the product of a special creative power, and as we cannot rationally accept this, we must accept that each succeeding animal is, by favorable variation, of its antecedent; and that such is that of the two-footed and two-handed animal with its organ of co-ordination from animals four-footed or four-handed. But such animals, at their first, and without more, were solitary; each individual were to himself as is the four-footed or four-handed animal. And were as dependent upon his individual exertions for the continuation of his individual existence, as is such animal. But in union of individuals for life, in groups of their common labors to preserve their common lives, there were a variation favorable to such animal.

The first of these unions for life possible were that of an unmarried mother and her offspring. The next were that of parents, male and female, and their offsping in which there were several females to a single male. And the next were that of a single female and her offspring, to a single male.

To the single female and her offspring were the means of safety and subsistence not possible to either mother or child without such union; and, to the group, of male parent so united to his wives and children, there were more abundant means. And to a state of the groups of a male parent, so united to his wife and children, there were yet more abundant means. And, through favorable variations therefore, of an animal in nature, there were the two-footed and two-handed animal from the four-footed or four-handed, and the agamic man from this, and the polygamic man from this, and the monogamic man from this. And there were man of nature, therefore, without there be the reason that there be not. And there is no reason that there be not, but in man's reluctance to accept that truth, and this is not sufficient.

This were not sufficient, for the reason that to man, in nature, it were necessary, To even the plant in nature, there is its tutelary moral genius through whose ministrations it is made to obtain the food and escape the dangers possible. And to the animal, also, there is this. And to man, in nature, there were this. But this tutelary genius in man, termed his conscience, is in him as it is in the plant or the animal, but to the office of enabling him to conserve and continue his individual existence, and this in consistence with, but exclusive of, the other beings with him at this earth. And to this, his conscience, there were nothing clearer than that it is not the same in subsistence with objective beings; or the same as the physical beings in man it so administers. And, so clear to human conscience, that it is not the same as are the objective beings with it at this earth, it is even clearer that it is not the same with them in nature of an universe of force. And upon this point, therefore, the deliverances of conscience are of no importance. And for answer to the question whether man be of nature, we are remitted to a rational analysis of the facts exsisting, and this will show that for every reason that the animal were of nature, man were, also, of nature. And we must abandon that of an universe of force there were nature, or, must admit that of a nature of an universe of force, there were man.

And, hypothecating life as the causal mode of a reality of the finite word of God, we must admit that of this reality there were not only nature but man in nature contigent only but upon that there be reality. And to the question, therfore, of whether of such life there be nature inclusive of man there is but the question whether there be life. But as life were the causal and necessary mode of a reality of the word of God in force the question whether there be life is but the question whether there be reality, the exsistence of which were conclusive of life the existence of which were conclusive of the nature of that life.

## CHAPTER XII.

### There is Reality, and in Being Finite, and the Word of God, and Force.

Apparent, thus, that there were nature of a reality in life, if there be reality, in that this were being finite of which there were nature; and the word of God of which there were nature; and force of which there were nature, and in that life and nature are

but different aspects of the same subject; and that there is man of nature, all contingent upon that there be reality, it is now to be shown that, to man, and to the acceptance of man in nature at this earth, there is reality.

In considering the question of reality, it may be postulated conclusively that there is reality if there be that which could not be without it. We can conceive of no one being in this universe but as it be cause of some other being consequent, or consequence of some other being cause. And we must accept the existence of reality, therefore, if we must accept the existence of that which could not be, as cause, or consequence, without it. Such were the "being finite," or the "word of God," or "force," or "space," or "matter," or "life," or "nature," or an "one and only being of the universe," or the "being physiological," or of this an "universe," or "star," or "sun," or the "earth," or "plant," or "animal," or "man," or "mind" in man, no one of which, to that mind of man, could exist but as the cause, or consequence of an universal reality in life. And there is reality if there be being finite.

Assuming reality to be the physiological expression of the will of God in nature, and that there is this if there be an one and only being of the universe, or a being physiological, there is reality if there be being finite, for the reason that there is being finite but as it be, both the one and only being of the universe, and being physiological. And this, for the reason that the being finite were of beings infinite of their reciprocal affinities, simply in reciprocal limitations of each other and, of this being of infinites, there were necessarily an exclusive universe. And this were as necessarily physiological in that such were the being of such kindred beings in such relations to each other.

It were necessarily, the one and only being of the universe, in that, of infinites, in reaction there were an universe; and, than, the beings of such infinites in reaction, there could be no other beings in existence.

And this were necessarily being physiological. That, as I have said, were the being possible of kindred beings different, of their reciprocal affinities, simply in reciprocal limitations of each other. And such were being finite. There were being finite, but of beings infinite; and of these but in the limitations of each, reciprocally, by the other, infinite as itself. And there were these infinites but as complementary and atomic parts of one original infinite. There cannot conceivably be two or more infinites, but as the complementary constituents of one integral and self-differentiating infinite, nor can there be such parts of an original infinite, but as they be of the same elements. Nor of

these were there the being finite, but of their reactions, nor were their reactions, but in their coincidences and differentiations penultimately on the axis of their neutral beings intermediate. Nor were there these coincidences and differentiations on such axis, but of their reciprocal attractions, and repulsions. Nor were there these, but as the atomic infinites be of the same elements inversely.

But if there be two such atomic infinites of the same elements inversely, these of their unlike elements were reciprocally in want of each other, and so were reciprocally vacua; and of their like elements, they were not in want of each other, and so, were reciprocally plena. And as such vacua they were reciprocally attractive, and so, were in absolute coincidence on the axis of their neutral being intermediate, if it were not that as reciprocally plena they were reciprocally repulsive. And as such plena they were reciprocally and irresistibly repulsive, and so, were in absolute differentiation from that axis, if it were not that as vacua they were held together by their invincible attractions; so that, of such atomic affinities these were but penultimately coincident, and penultimately different, in production of a being finite of them both, in one. And this as a hollow sphere of the one infinite prepotent, in revolution about its radiating center of the other prepotent; which revolution, to an observer, along its axis were from right to left of him who looks along the axis one way, and from left to right of him who looks along it the other.

As to its visible, or conceivable form, such being finite of beings atomic but infinite in reciprocal limitations of each other, were that of a spheroid. And this prolate or oblate as the one or the other atomic infinite be prepotent in its production. But in diagram of their reciprocal activities in its production it were, in formal effect, a wheel in revolution on its axle, of which the axle were the one atomic infinite in production of the other as its disk, which were the other in production of the one as its axle. And this wheel were in revolution on its axle, and necessarily from right to left of him who looks along its axle one way, and from left to right of him who looks along it the other.

So, also, as such wheel of reciprocating activities, it were in modes of being opposite and the one eccentric and the other concentric, and the one of axle into disk and the other of disk into axle, and the one in evolution of itself in production of its disk, and the other, in involution of its disk, in production of its axle; and also in production of itself into smaller disks in revolution on their axes and in orbits of revolution on the parent axis. And these reciprocal activities in beings, respectively, about the axis

of their neutral being intermediate, were from their reciprocal affinities simply through which there were such being finite.

In that genesis of the being finite, suggested in the coincidence and differentiation of atomic infinites, there is presented the expulsive aspects of that process, but there are also its intersusceptive aspects. In coincidence on the axis of their neutral being intermediate, from their superior attractions reciprocally, their reciprocal repulsions then come into play. And of these the axle, in assertion of itself, within the disk excludes, and in excluding, produces the disk, and the disk in assertion of itself, excludes, and excluding, produces the axle. And this, from their being under antecedent and superior bonds of attraction, not considered, is what may be termed the repulsive aspect of this being finite.

But there is also what may be termed its intersusceptive aspect. Apart, and forced to meet, of their superior attractions, on the intermediate field of their common being, they can, and do, this, but in their reciprocal intussusceptions of each other; and but as the one shall receive and enter into the other and the other receive and enter into the one. And as these, their reciprocal attractions, can be but as they be of the same essential elements, and of these inversely, each, such atomic infinite, must represent a respective part of the being finite possible of both; and the one the axial and the other the discal element of that finite being. And as of the reciprocal attractions of these atomic elements apart, there were these meetings, in the finite wheel, in rim and axle, so, between every part of the rim and the axle through the spokes possible, there were these reciprocal attractions and the tendency in the axle to approach the rim and in the rim from its every point, to approach the axle.

But, as in spokes and rim there were both discal and axial elements, however prepotent might at first be the discal elements, still in every quadrant of that disk, together with its tendency to the axis of that wheel, there were its tendency to an axis of its own as the center of such quadrant. And as the rim of every such finite wheel were continually receding from its axle, from the continued incidences of atomic infinites on that axis, it will ultimately have receded so far from its original axis as that the attractions of the quadrants of its rim, to their original axle, will have become so weak, and those for their own centres, so strong, that they will let go the one and form about the other, which, however, as such centers and axes of new beings finite will be under the same attachments to the original axis as were the rims of such quadrants.

There were thus, therefore, in every being finite, or visible, or invisible, to us, or universal, or infinitesimal two processes, the one of atomic infinites in reciprocal expulsions, and the other of these in reciprocal intussusceptions of each other. And this, of kindred beings different, were being physiological. And that there is such being possible is seen in phenomena of force, which also illustrate the reciprocal activities of beings infinite into beings finite, I have endeavored to express..

At the poles of every battery of matter under force there are the electricities minus and plus, and these attractive and repulsive, and therefore vacua and plena and kindred, therefore, from being of the same elements inversely, and of their attractions, they meet, in the field of their beings intermediate the poles of the battery. And from being separately altogether invisible, in meeting, they become visible the one to touch as heat, and the other to sight as light; and this in a spheroid; and this in effect a disk of light about its axis of heat; and this revolving on its axis one way to him who looks on it from the minus pole of the battery and the other to him who looks along such axis from the plus. But this, so that there is the spheroidal spark of heat and light from the meeting of unconducted electricities in the interval between the proximate electrodes of the battery, it is not so of their meetings conducted without such intervals between proximate electrodes. If the poles of the battery be connected by an inadequate conductor there is not the spark, but the wire becomes incandescent. And if the conductor be amply adequate there is not either heat or light, but, instead, a current of peculiar force quite invisible, but which is known to exist from the movements of the magnet adjacent to the conductor, and from the chemical reactions it occasions in solutions of matter compounds through which the current of electrical reactions may be made to pass. These movements of the magnet are spirally around the wire from the plus to minus pole of the battery and by its north pole to the right. And these electric radiations are all in the way of discharging oxygen, or oxygenic matter, from its source to unite it with a denser base. And, regarding the conductor as in sections, and each section as a spheroid and wheel of these electric elements in reaction, the current itself must be accepted as the axes of which the magnetic moments about it are the disks; and the electrical axis one way, and from the minus pole of the battery to the plus, as the oxygenic force, and from the plus to the minus, the hydrogenic. Assuming oxygen and hydrogen to be the polar extremities of the matter molecule or compound, respectively, and that the minus pole of the battery is oxygen to

the plus hydrogen, the minus acid and the plus base, and the minus axis of the wheel physiological, of which the plus with all its intermediate reactions, is disk; and that the minus is the heat of the spark of which the plus, and its intermediate reactions, is the disk of light about it; and that the minus is the axis of electrical reactions of which the plus and beings intermediate are the magnetic products; and that this is capable of such beings of it, so were being finite; and these, beings of force reacting, so were these of being finite, which thus, capable of being physiological in teleologic evo-involution, were capable of nature, and were the cause, therefore, of the nature of which they were capable. And, the cause of a nature of realities, reality, the being finite were reality. And it were not possible but as it be reality. And there is reality if there be being finite, possible, but as it be the one and only being of the universe, and so, reality, which, if it exist, is itself, such being; and possible but as it be the finite word of God, reality, if there be reality. And there is reality, if there be the being finite, therefore, which could not be without reality.

## CHAPTER XIII.

### If There be the Word of God, There is Reality.

If there be the word of God there is reality, for the word of God were being finite. There were God but as cause; and he were cause but through means; and through means, but of his own infinite beings finite; and finite but of their reciprocal limitations of each other, and these of their reciprocal affinities simply in productions of the spheroidal beings of them both; and these were beings finite in teleologic evo-involution; and for the every reason that the being finite be reality, the word of God were reality. If the being finite be original, self-existent, automatic, automatic and teleologic, so were the word of God. And if the being finite be the one and only being of the universe, so were the word of God. And if there be being physiological, so were the word of God. And if that be in teleologic evo-involution, so were this. And if, for these, or the one of these, reasons, the being finite be reality, so, for that reason, were the word of God. And the only question is whether that reality of the word of God in being finite be that reality through which there is the nature of the word of God. Or whether that reality, through which of God, as cause, there is

nature consequent, be not something else or other than that, in being finite.

To the every normally sensible human being there is a cause, of his being and of beings with him, which we term God. And it may be questioned whether that cause is through the being finite of God or through other means. And it *is* questioned whether it be through his being finite, by those who require special creative acts to every species of plant or animal, and by those who require an anthropomorphic theos to man himself. Of cause in being finite the plant, animal, or man can be but its most, and, best, to be its most. And it can be other than this but through such theos which were then a reality other than that in being finite.

But, in the being finite of God's own beings infinite, there were cause of consequences possible, and of nature, therefore, if nature be of God; and if it be not of the finite word of God, that were the miracle of cause without consequence, for there is no consequence but nature of which it could be cause; and nature were the miracle of consequence without cause, for there were no other cause of which it could be consequence. Or, if nature be of some other mode of cause from God, there were then two modes of cause both equally capable and both of God. And it is unreasonable and inconceivable, therefore, that with the one sufficient, he should have used the other, if there were other in existence.

But there were no other in existence. The one being finite, of God's own beings infinite, were universal to that being of it and exclusive, therefore, of other being of that universe; and, exclusive, even of other word of God itself; so, also, were other word redundant and so not supposable. But, if still we must suppose such theologic cause, that, itself, were the word of God; and—the cause of nature—were reality.

And that, as the finite word of God, were reality from its being physiological as is that of nature. The every word of God were the finite of infinites and, as such, it were the being possible of kindred beings different of their reciprocal affinities simply in reciprocal limitations of each other in production of the being possible of both in one. The infinite beings of the word of God, as of being finite, simply, were atomic parts of one integral infinite, and, as such, they were of the same elements inversely; and, as such, were vacua and plena, and attractive and repulsive, and in coincidence and differentiation in production of spheroidal being of them both and this, in revolution on its axis of the one; and this, a wheel, in evo-involution or invo-evolution as we regard it in process from axis into disk or from disk into axis.

The axis were radial and the disk were peripherential, and, both in forces reciprocally, those of the axis were eccentric and those of the disk concentric but with the tendency in axial rays to become concentric in the disk and the discal rays to become eccentric in the axis. And in result of this there were the disk of every such word possible to form into words about their own axis and in orbits of revolution about the axis of the parent word, and this continued, there were words about the axes of the parent word and words about the axis of these, and, so on, to the words possible, analogously, such as were stellar systems about the axis of the universe, and solar systems about the axis of stellar systems and planetary systems about the axis of the solar systems and, so on, to the systems of force and matter, inorganic and organic, plant and animal, at this earth's surface. And, this nature in matter possible from the universe to man, of this, the word of God, physiological in teleologic evo-involution and invo-evolution, were capable, and, capable of nature, it were cause of nature. And, cause, reality, the word of God were reality.

And the word of God to us were reality for the reason that to us God is the prime cause of being in this universe whose word of his own infinite beings finite is his only means to such beings. This, therefore, were the efficient cause of such beings, and, as such, it were reality. And if, therefore, there be the word of God, there is reality.

## CHAPTER XIV.

### There is Reality if There be Force.

If there be force it is that being invisible in phenomena of which are the physical forces heat, light, electricity and magnetism, and the attractions, repulsions and gravitations of matters, and the reactions, of matters at a distance; in which there are stars in physical couples moving in their orbits about centers intermediate; and in which there are the sun and planets, in their respective orbits, about the center of this solar system; and in which there is, to us, the sense of distant objects. The physical forces are not themselves beings substantive but only the phenomena, of such beings, and those beings apparently different of which they are phenomena, are essentially one and the same, of which the varied phenomena are but the different aspects.

This is apparent in the fact that all such forces react, as they could not if not of the same essential elements inveresly. That being of such forces is also essentially the same as that of space. There is that seeming void we term space between stars in their orbits about their invisible centers intermediate; and between the sun and planets in their orbits about the center of this solar system; and between matters under attractions, repulsions and gravitations. And, terming this space, it is yet that by which the stars, sun and planets are placed and held at their respective distances from the centers of their orbits, and are made to move in their respective orbits about those centers, and this, however we may term it space, is force.

That is force which in its incidences on beings produces, or tends to produce, or change, their states of rest or motion. And, such that being between the stars, sun and planets, it is force. And such is that through which matters apart are attracted and repelled. And such that medium through which there is sight of a distant object. We may see in it nothing and deem it a void, and call it space, but in its effects on the matters it intermediates, it is force. And this, a being essentially the same as that of the matters it intermediates, and this the same as that conscious being in man so able of its intermediation to perceive its object at a distance.

It is the same as that of matter, for reason of its reactions with that in matter. The affections for each other of matters at a distance are inexplicable but upon the supposition that they are in reaction, and these reactions are inexplicable but upon the supposition that there is a being intermediate, in reacting with which, they are reacting with each other.

But this were possible only on condition that the medium and matter mediated are of the same essential beings. And—the medium force—force and matter, are essentially the same, and this identity is further established in the fact that, of any force, or matter, the physical forces are evolved, and, of sufficient force on any kind of matter, it is sublimed to force.

For the same reason, of their reactions, force and conscience are the same. And it thus appears that there is an essential being of the physical forces space and matter, and of the human mind perceptive of these; and it further appears that this being is universal in the fact that an instant of force at any point of place or time where the miracle of consequence without cause, if there be not an universe of that force, the disturbance of whose equilibrium is indicated in such instant. Such universe of force were exclusive of other being than force within that universe;

and it were the cause of being, in its course of being, throughout the universe; and, the cause of being in its course of being, nature, it were the cause of nature in the course of nature, and—this reality—if there be force there is reality.

Force were reality, also, from being the finite word of God. We have seen that being finite were reality, and the word of God reality, and if there be force there is reality in that it were the being finite and the word of God. It were being finite for the reason that it is where there were the being finite. Of each there were an exclusive universe, and there were being finite, but as there be force and force but as there be being finite. And it were of beings infinite of their affinities simply in limitations of each other, as, were beings finite. Such were the minus and plus of electric force. These react in production of the spark, of their reciprocal affinities, simply. There is no ground to suppose a supervening force on both or either, and though either at its place and time be finite, both, in source and cause were, infinite, since it is rationally impossible that either could have a finite source of cause.

It were being finite, also, for the further reason that it were being physiological as were being finite; and in teleologic evo-involution as were being finite. And in that it is the being possible of kindred beings different, of their affinities, simply, in limitations of each other. Such are the minus and plus of electricity in production of the spark; and such electricity and magnetism in production of the electro-magnetic wheel of magnetic moments moving about the axis of eletrical reactions; and such the spark of heat and light. No one of the either of which could exist but as it be a being physiological of kindred physes reacting to produce it.

Force, therefore, is being finite, if there be being finite, in that it is the one and only essential being of the universe as were being finite; and in that it is of beings infinite in reaction as were being finite; and in that it is being physiological as were being finite; and in that it is in teleologic evo-involution as were being finite; and being finite, reality, force were reality.

It were, also, the word of God for that the word of God were being finite; and for that the word of God were the one and only essential being of the universe, as were force, and for that the word of God were cause, in its course of nature, as were force, and for that the the word of God were of beings infinite and were being physiological and in teleologic evo-involution, as were force.

And the word of God, reality, so were force. And if there be force, therefore, whether as the one and only essential being of the universe, or as the being finite, or the word of God, or as the essential substance of the physical forces space and matter, or conscience in man, there is reality.

## CHAPTER XV.

### If There be Space, Matter, Life or Nature, There is Reality.

If there be space it were the cause in course of that illimitable being invisible and imponderable in which there are matters visible. And if there be matter it is the cause in course of that limited being, in some of its states, visible, and in all, ponderable; and seen as stars, suns, planets, moons and meteorites, all—but the last—orbs of matter, in revolution on their axes and in orbits about centers of spaces intermediate. And it is also that, termed, inorganic, of which there is this earth's crust in metals, rocks and waters. And also that, termed, organic, in which are the lives and natures of plants, animals and man, at this earth's surface.

And if there be life it is that sensitive being in plants, animals and man through which they are perceptive of the conditions incident, in consistence with which they may continue their existences, and which prompts, and inspires them to the activities necessary to such continuances.

And if there be nature, as applied to these, it is in phenomena of their lives in continuing their existences under incident conditions. And, as applied to these with the earth, sun, stars, and universe, it is the course of cause invisible into its consequences visible.

And if there be space there is reality. If there be space it is a being in substantive existence. This is not admitted. We have no science of space but only of forces and matters. And, though we see matters in beings and activities, inexplicable, but upon the assumption of a being invisible intermediate as real, and indefinitely more voluminous, than matter, we ignore it but as a void in which matters without motive are at play. And there is reason that it is not such, and that there is not such void.

There is reason that the cause of beings visible is the cause of beings invisible. And that the cause of that apparent plenum we term matter is cause of that seeming vacuum we term space,

and that there is cause in the one as in the other, and that the one is consequence of that common cause as is the other. And there is but our perception of the one, and not of the other, to distinguish them.

This were not a distinction to establish a difference between them. And the most we can truly say as to a difference between them is that they affect us differently, or that the one affects our senses, and that the other does not. But we must admit that many things exist of which we are unconscious. And that in space there are such invisible realities, is shown in the fact that the stars, suns and planets are moved by forces as real as are the planets, suns and stars themselves. And that the eye is advised of its distant object by beings as real as itself. And matters are under attractions, repulsions and gravitations, all, invisible, but as real as the matters themselves. And if it be objected that these are forces and not spaces, it is replied that as realities they show that the being invisible we term space is not a void. And—theory, that it is real as is matter in that both are consequences of the same cause; and, evidence, that in it there is force, a reality—there is the ground to conclude that space is a reality; and a reality, as being finite, and reality, as the word of God, and reality, as force; and that if there be space there is reality to that extent, at least, in that without this it were consequence without cause. The reality were being of cause and consequenee. And space were consequence, and if in it there be not also cause it were that miracle of consequence without cause, the existence of which we cannot consciously accept. And accepting it as a substantive being in existence and as consequence of cause, therefore, we must accept it as reality, and that, if there be space, there is reality.

If there be matter, also, there is reality. If there be matter. the cause and mode of ponderable beings limited and visible, it is the same as the cause in mode of that being invisible, unlimited and imponderable, we term space. The spread of matters visible through the universe of space invisible is to us as are the features of the landscape made visible by the rays of the sun invisible. The sun is, perhaps. the originating source and cause of the landscape, and its features, and of the light through which we see them, and of that conscious being in us perceptive of these features through that light. And, the light representing that cause in one of its modes to conscience and the landscape that same cause in another of its modes, so, space, representing the universal cause in one of its modes, and matters in another, the

cause in modes of space, were the same as that in modes of matter.

The essential beings of space and matter are the same, also, from the fact that these essential beings react. There are the changes in the states of matters in relation to each other, but in their reactions, and there are the reactions of matters at a distance, but in their reactions with an intermediating space, in reacting with which mean proportional they are reacting with each other. But there is reaction between beings but of their attractions and repulsions, and these but of their elements inversely. And it is as certain that space and matter are of elements the same as that they react, and as certain that they react as that they change their states of rest and motion in correspondence with each other.

And space and matter are essentially the same, also, in that, matter, under dynamic force sufficient, is resolved to space. And, though it be not so demonstrable, there is reason to believe that space, under static force sufficient, is condensed to matter. There is reason that the heat in eccentric radiations from the earth's surface, not distinguishable from space, are met by concentric radiations of cold from the earth's atmosphere not distinguishable from space, and that, of these are the hydrogens and oxygen of water, the one's cold and the other heat. And that of the hydrogenic cold continued on the oxygenic heat, there is water into ammonia and carbonic oxide and that of such cold continued on water, ammonia and carbonic oxide, there are ammonias compound and of these, plants. And that thus there is matter of static force on space. This were so but as matter be the same as space; and, space, reality, so, also, were matter.

But, without this, matter were reality. It is in thoery the consequence of cause, however we be unable to perceive that cause. And it is in fact the consequence of cause in an antecedent state of its own being. Through chemical analysis all compounds of matter are resolved into their elements, metallic, or non-metallic, and each of these into its atoms positive and negative, both invisible. And through dynamic force sufficient, whether of heat, electricity, impact pressure or projection even, matters solid become liquid, and matters liquid, gaseous, and matters gaseous as insensible as they are in the atomic states of their elements. But it is not supposable that matter ceases to exist when it ceases to appear as such to us. And there is reason that there is yet a discoverable region of matter not explored by science. Within little more than one hundred years have been discovered oxygen, hydrogen, nitrogen, chlorine, bromine, iodine and fluorine. Lately it is discovered that there are yet

material beings not definitely articulated. It is seen that there are forces physiological in this earth's atmosphere, through treatment of which communications can be made from one part of the earth's surface to another. These forces, if not matters recognized as such, are, at least, in that region of its being into which matter, expelled from sense, takes refuge. And as this is a state of matter resulting from its dissipation there is reason that it is a state of matter invisible in which there is cause of matter visible, and that it is the invisible cause of being visible as that is the visible consequence of its being invisible. That these states, therefore, are as cause and consequence; that thus, in matter, there are cause and consequence; and cause and consequence, reality, that in matter, there is reality, and if there be matter, there is reality.

And matter were reality in that it were being finite. It were being finite in that it were of beings infinite of their reciprocal affinities simply in reciprocal limitations of each other, as were being finite. And in that it were in teleologic evo-involution as were being finite, and it were being finite in that, that were universal and exclusive of other being in that universe and of matter, therefore, except as it be being finite; and that, reality, matter were reality.

It were reality, also, as the word of God. That were being finite and of beings infinite; and it were being physiological, in teleologic evo-involution, as were matter. And it were universal and exclusive of matter, but as that be the word of God.

It may not be realized that matter is of beings infinite or that of these it is being physiological in teleologic evo-involution. But, being, simply, and without qualification, were being infinite, and the being qualified were being finite, and such were the atoms of elemental matter. And these were kindred beings different these were of their reciprocal affinities, in limitations of each other in production of the elemental matter molecule, this, under conditions proper, were in resolution into the progenital molecule of it possible, and this were teleologic evo-involution. And if there be matter it were such, and this, reality, if there be matter, there is reality.

If there be life, also, there is reality. If there be life it is a sensitive being in plants, animal and man, at this earth's surface, through which they are perceptive of the conditions incident to the continuation of their individual existences, and are prompted to the means of such continuations. It is not true, perhaps, that this being is peculiar to plant, animal and man. It were the cause of being in its course of being possible. And it is probable that there is the cause of its being in the course of its being in

every moment of force; and in every molecule compound, or form of matter, inorganic and organic; and in the earth, itself, and solar system. And probable, therefore, that between that cause in its course of plants and animals, and of forces and matters, there is not the difference to sustain the distinction made between matters animate and inanimate.

But we are in the habit of terming that in plants and animals life. And whether that, in these organic matters, be the same, or different, from that in matters termed inorganic, that, in organic matters, plants and animals, termed life were, at least, the cause of their beings in the courses of their beings termed their natures, and if there be this life, there is reality. And this, for the reason that the cause of being in its course of being throughout the universe, were reality. And this—reality in the every being of the universe—were reality, in plant, animal, and man. And—reality, if there be space and matter—there is reality if there be life.

That which we mean by the term life is not that, perhaps, which I have stated to be life. Nor, in fact, is it easy to see what is meant by life. The definitions of life are not instructive. Nor are those of space, matter and nature more instructive than is that of life. It does not seem that in either there is the conception of these as real beings, but, only, as phenomena without noumena, and as consequences without causes, which exist but as we may see or group them. And in grouping them we rather look to see what other persons say they are, than what they are in fact—as though agreement as to their existences—were the condition upon which only they can exist.

But I postulate these as beings of cause in consequence without reference to our conceptions of them. And if there be such life, there is reality. And—reality, from its being cause in consequence—it were reality from being finite, and, reality, from being the word of God, and reality from its being physiological in teleologic evo-involution.

In every plant, animal or man it were the cause of which the consequence were nature. And it were being finite for the reason that it were being and not infinite. And for the reason that of being finite there were an exclusive universe. And this exclusive of life, but as it be being finite. And it were the word of God for the reason that the word of God were being finite. And for the reason that of the word of God there were an exclusive universe; and this exclusive of life, but as it be the word of God. And it were being physiological, in teleologic evo-involution, for the reason that such were the being finite and the word

of God. And for the reason that the every plant, animal or man is, under the conditions, the being possible of kindred beings different of their affinities simply in limitations of each other.

There is the plant but of its seed. And there is the seed, but as it be of staminate and pistillate principles in relations, under proper conditions, to react in production of the plant. And in such reactions they are kindred beings different of their affinities simply in limitations of each other. And this were evo-involution. And this, in production of the plant, were teleologic. And this so with the seed of the plant were so with the ovum of the animal or man. That—of sperms and germs, such beings different in teleologic evo-involutions—there are these in consequences of that cause, and, the consequences such beings physiological, so, were their causes. And their causes, lives, there were such beings. And if there be life, therefore, there is reality.

There is reality, also, if there be nature in that nature were the habiliment of life. And if life be reality, so, also, is nature, its habilment. It is not proposed that this is the common meaning of the term nature. It seems to be assumed that both life and nature are phenomenal merely, and that they exist but in the groups of phenomena to which we give these names; and that the groups exist but to the extent to which we are able to perceive them. And hence in our definitions of life and nature we look to see not what they are, in fact, but what others say they are. And in this we do not find that they are co-extensive, or necessarily related to each other, or are relative at all; but that, while life is confined to plants, animals and man at this earth's surface, nature is allowed to comprehend not these, only, but force, space, matter, the earth, solar system, and visible universe

And this is necessary to all who do not accept, in their philosophy, the hypothesis of an original reality in a finite word of God, as cause. But to the philosophy accepting such existence, there is life, but as there be nature, and nature but as there be life. And these are exactly co-extensive; and are but obverse aspects of the same real being; and life, is minus, and nature plus, and life, dark, and nature light; and life, electricity, and nature, magnetism, and life, heat, and nature, cold; and life, eccentric, and nature, concentric; and life, cause, and nature, consequence; and life, the cause in course of nature, and nature, the consequence of cause, in life; and life, the naked being, and nature, the clothing it puts on without regard to human sensibilities. Such were nature if there be nature. And if there be

nature there is reality. And "if there be Space, Matter, Life or Nature, there is Reality."

## CHAPTER XVI.

### If There be an Universe of Nature, There is Reality.

If there be an universe of anything there is reality, for, reality were being finite of the word of God. That were universal and the one and only being of an universe beside which there could be no other universe; and if there be an universe, therefore, there is reality.

But if there be an universe of nature there is, of course, reality, in that there is nature but of the course of reality as cause into its consequences possible. We may not be able to see that there is an universe, or conceive the existence of an universe necessarily inclusive of ourselves, or that this is of that nature of which we are, but the proposition is not that we consciously realize an universe, but only, that if, as a fact, there be an universe of nature, there is reality.

The task of comprehending an universe were as hard to man as to an intelligence on one of the luminous particles in the belt of Saturn, were the task of comprehending that planet, and that planet as a member of the solar system. To such intelligence there were a hollow sphere of luminous particles about it as in the celestial sphere there are stars about us on this earth. And we are not more directly perceptive of the magnitudes and meanings of the stars than were one such intelligence of the magnitudes and meanings of the other particles, and we are not more perceptive of an universe, than were such intelligence of the solar system.

But this is not important to the truth hypothecated and if there be an universe or an universe of nature, there is reality.

## CHAPTER XVII

### So, Also, if There be Stars, or Stars of Nature, There is Reality.

There is above us and around at this earth what is termed the celestial sphere, in which are luminous objects the most conspicuous of which is the sun, which, when it is above the hori-

zon, blinds us to the rest, but which reappear upon disappearance of the sun. Of these, some are known to be in attendance on the sun and are termed planets, but very much the most of them are believed to be self-luminous bodies as is the sun, and are termed stars. Their numbers, situation and relative magnitudes have never been estimated and never can be, perhaps, but they are supposed to be bodies of matter, each the largest of a system of such bodies, moving with it about a center of gravitation, intermediate, and in orbits about such center, as are the planets moving with the sun about the center of the solar system. And it is supposed, also, that each star is an orb of matter about its center of included space and that such, also, are the bodies of matter moving with it about such center.

But, whether this be so in fact, this is the hypothesis, and if there be these stars there is reality, for, in crusts of matter, that matter were of force, and that force were being physiological, and that the being finite, and the word of God, and that, reality, and so, also, and for the same reason, their included spaces were realities, and they were in orbits of revolution about their axis intermediate but as they be beings physiological and realities.

And if there be stars, therefore, there is reality, if there were nothing more. But if there be stars of nature, there is reality contingent but upon that these, or these of nature, exist.

## CHAPTER XVIII.

### If There be the Sun, or the Sun of Nature, There is Reality.

The sun is obviously the most conspicuous object in the celestial sphere, and it is supposed to consist in a crust of matter about its center of included space with an atmosphere of metal and metallic oxide vapors about its crust; and that it is in revolution on its axis and in its orbit of revolution with its planets at their respective distances about the center of the system, from its predominance, termed solar. And if there be this, there is reality, for its matter were reality and its space reality and it were in revolution on the axis of the system, but as it be reality.

It may be doubted that the sun is in a crust of matter about its center of space, or that there is its atmosphere of metallic and metallic oxide vapors, or that it revolves upon its axis or in its orbit of revolution on the axis of the solar system, or that with it there are planets, such, also, revolving on their axes and in their respective orbits, also, on the axis of that system; but such

is the sun hypothecated, and if there be this there is reality, for the reasons stated. And if there be this of nature, there is the more certainly reality in that this were nature, but as it be reality.

## CHAPTER XIX.

### If There be the Earth, or the Earth of Nature, There is Reality.

The earth proposed is that orb of matter on which we stand; and it is supposed to consist in a crust of matter about its center of space; and it is supposed that its crust of matter is in strata, the first, about its center of included space, of the densest possible metallic matter; and the next, of metallic oxide matters in a granitic rock, termed orchean; and the next of hydrogen oxide matter in water liquid; and, that, exterior to the water stratum, and, in teleologic evo-involutions of water, there is a limiting membrane of matters termed organic, of which are plants, animals and man; and if there be this, there is reality. There were not its center of space but as it be reality, or it, crusts of matter, or a stratum of that crust, but as it be reality, nor were there water, by teleologic evo-involution into organic matter, but as it be of reality, nor were there this organic matter into plants, animals and man, but as it be reality into such realities.

It may not be admitted that such is the earth, but such is the earth hypothecated, and if there be this without the stipulation that it be of nature, there is reality; but if it be of nature there is no question that there is reality.

## CHAPTER XX.

### If There be the Plant, or This of Nature, There is Reality.

There is obviously at this earth's surface a being termed the plant; and it is seen that this is in orders termed cryptogamic, phanerogamic, endogenous and exogenous; and it is probable that it consists of ammonias compound, amede and amine, and acid and base reacting, and that these consist of water, ammonia and carbonic oxide, and that these consist of the matter elements, oxygen, hydrogen, nitrogen and carbon; and that these consist of force physiological, such as is that in the atmosphere of this

earth from disturbances of which there are the telephone and telegraph; and from the reactions of which, from cold prepotent, there are the rains and snows which fall to the earth's surface; and that this atmosphere of force is the same as that within the earth's crust from reactions of which, from heat prepotent, there are artesian waters.

It is probable, also, that of these orders, cryptogamic, phanerogamic, endogenous and exogenous of the plant, the cryptogamic is the first in order of time and place. And that of this order, the alga is the first, and next the fungus, and then the lichen, moss, equisetum and fern in succession, and that the phanerogamic order is next to the cryptogamic, and that of this the endogenous is the first and the exogenous next and last.

And it is probable, also, that this being physiological, first apparent in the unicellular alga, is, by favorable variations, first into the multi-cellular alga, and thence into the successively higher cryptogams; and thence into the endogenous phanerogams; and thence into the exogenous phanerogams conspicuous in forests; and that these favorable variations are in the intuitive changes in this being physiological to the acceptance of the conditions incident through which it can attain to a larger and better being such.

And, such the plant, if there be this, there is reality in that the forces internal and external of this earth were realities; and the waters, realities; and the elemental matters of these, realities; and the compounds of these, realities; and the plants of these, realities. And of the plant as a physiological reality, only were it possible that it could so vary, and varying, progress from the un-cellular alga of the Silurian seas to the Angrospermous oaks of our present forests.

And though it be not admitted that such is the plant, the truth does not depend upon our acceptance of the facts, and if the truth of such plant were in question our conceptions with respect to it would not affect it. But whether it be true or not that there is such plant, such is the plant hypothecated. And if there be this, there is reality without the condition that it be of nature, but if there be this of nature, there is reality, the condition of nature.

It is impliedly denied, and by men of science, that the plant is of nature, in that it is required, to the origin of every species of plant, that there be a special creative act. Such is the requisition in every admission of a species of plant, not by favorable variation under conditions from an antecedent plant. And in this there is a denial that there is nature in the resolutions of

reality capable and cause of such specific plant. But this does not affect the proposition that if there be the plant or the plant of nature, there is reality.

## CHAPTER XXI.

### If There be the Animal, or This of Nature, There is Reality.

There is as obviously, with the plant at this earth's surface, another order of beings termed animal. And that this is in orders termed radiate, annulate, articulate and vertebrate, of which last are the orders fish, reptile, digitigrade, plantigrade, quadrumana, bimana, and it is probable that this is also being physiological, by favorable variations, into the beings of it possible. And that it first appeared as the amoeboid radiate, and preceded thence, by favorable variations, through the annulate of structured radiates and articulates of annulates; and vertebrates of articulates, anastomosed, to the fish, and thence through the reptile, digitigrade, plantigrade and quadrumana to the bimana, man, first agamic, than polygamic and then monogamic.

And, probable, that the amoeboid radiate was the first, it is probable that this was of elemental matters as was the antecedent plant, and that these were also of force; and that the matter elements of this first animal were the same as those of the antecedent plant, with sulphur and phosphorus in addition. And that, while the plant is the being physiological possible of the reactions of oxygen, hydrogen, nitrogen and carbon, the animal is of the reactions of these with sulphur and phosphorus in addition.

It is probable, also, that the plant in production of plant matter possible was first and that the animal in production of the animal matter possible, came afterward; and this to feed upon the plant as the plant upon the forces of the earth and air. And that, for this reason, the plant is sessile at the earth's surface in performance of its office of mediating the forces of the earth and air. And that the animal is locomotive in obtainment of the plant food possible.

And such the animal, if there be this, there is reality. And as being physiological, it is of reality; and as the evolution of the plant, reality, and as it be of the elements of matter, reality, and as these be of force, reality, and as by favorable variations to the conditions of existence it advances, reality. And this without the stipulation that it be of nature.

But if it be of nature, there is reality in that nature were reality. And though it be not admitted that such is the animal or that the animal is in any such relation to the plant, and be so impliedly denied that the animal is of nature in the requisition of a special creative act to every species of animal, the truth proposed is not affected, and it yet remains that if there be such animal, or this of nature, there is reality.

## CHAPTER XXII.

### If There be Man, or Man of Nature, There is Reality.

If there be man, he is that more than the animal there is in the two-footed and two-handed animal associated to more abundant means of safety and subsistence. There is no essential difference between the successive orders of animals from the amoeboid radiate to the two-footed and two-handed vertebrate. In the amoeboid radiate there are matter elements oxygen, hydrogen, nitrogen, carbon, phosphorus and sulpur, and these are of force, and that force, physiological.

And that radiate is but a physiology of such elements in force. And there is, by variations to the conditions of existence, simply this into the structured radiate. And this into the annulate of radiates. And this into the articulate of the annulate. And this into the vertebrate of articulates, united. And the fish into the reptile, and this into the digitigrade, and this into the plantigrade, and this into the quadrumana, and this into the animal two-footed and two-handed. Each is a being physiological of the same essential elements of matter in analogously the same compounds of such, and each is under ministrations of an inherent and tutelary moral being, perceptive of the conditions under which its physical existence may be continued, and suggestive of the means through which, under conditions continually changing, it may become more, and better, that it may be more.

And such were the animal two-footed and two-handed. To obtain the greater food and safety of two sets of supporting members, either the four-footed animal, at the instance of its tutelary genius, will have changed its two fore-feet into hands, or the four-handed animal its hind-hands into feet. With this an intermediate organ to co-ordinate the activities of feet and hands will have become necessary. And thus, and by variations to the conditions of a larger and better existence possible, there will have been the animal, into the animal two-footed and two-handed. But in this there were not man. It were egoistic and

solitary as was the antecedent animal, each intent on the preservation of its individual existence, without even that *ego altruism* there were in beings naturally united, which in helping others help themselves. It is to be supposed there were the temporary unions there are between animals, male and female, under sexual feelings, and between mothers and their infant offspring under the maternal instinct.

But in that first two-footed and two-handed animal there were no unions for life between mothers and their offspring, or between parents, male and female. And such unions have occurred. The first of which were those of unmarried mothers and their offspring, termed agamic, and seen in stocks of savages. And the next of which were between several adult females with a single male, termed polygamic, and seen in barbarous tribes and castes of these. And the next were those of a single female to a single male, termed monogamic, and seen in states of families united under governments by appointment of proprietary male parents.

In such agamic union for life, however imperfect, between the unmarried mother and her offspring, there was a favorable variation from the solitary two-footed and two-handed animal. And the polygamic was such from the agamic animal; and the monogamic, such, from the polygamic. There were more and better animals in the agamic stock than were possible in the antecedent herd, and more and better in the tribe than in the stock, and more and better in the state than in the tribe; and if there be man, he is that more than animal who has come to exist in families agamic, polygamic and monogamic, from such unions for life between parents, and between parents and their offspring.

Such were man, if there be man. And if there be such man, there is reality. As an animal merely he were of reality, as is the animal. But of reality only, could he advance from the animal to agamic man, and from agamic man to polygamic man, and from polygamic to monogamic man.

If there be reality, as I have said, it is the word expressive of the will of God in the beings of it possible. And in every such being it is not only its cause, but the cause of its being into the beings of it possible. And, the cause of the two-footed and two-handed animal, it were the cause of this into the unions of its individuals into the groups through which there were the more and better individuals. Nor were there such groups without such inherent and persistent cause.

And if there be such man, there is reality. But there were this the more certainly if there be such man of nature, which were in the resolutions of universal reality as cause into its consequences possible. And, while it is clear, perhaps, that man does not admit that he is of such nature, yet it is equally clear that his admission is not important to the existence of the fact. And if, without his admission, there be nature and man in nature, there is reality, the only condition upon which there can be nature.

Nor is his rejection of nature important. He can accept it but through a philosophy, and this, by deduction from the hypothesis of an universal cause, such as were the finite word of God in force into its consequences possible, such as are in natures from the universe to man. And not only has he no such philosophy, but he cannot, consciously, accept such philosophy in extinction, as it must be, of his individually conscious being. In providing, individually, the means of safety and subsistence, he is conscious of the power to originate his motives to the volitions and activities necessary to these ends. And the sense of that power he cannot, consciously, forego, more than he can consciously forego his gravitation. But this he must consciously forego in accepting that there is an over-ruling reality in nature, and that he is of that nature, and that his motives are not original with himself, but are sequent in him of motive in that original reality as are those in any particular wheel in the machine apparently and consciously, perhaps, acting of its own motive, but in fact of motive from the axis of the machine.

That man does not accept nature and himself of nature, therefore is not important to the question of whether there be nature or man of nature. Nor is it important to the present question of whether if there be man, or man of nature, there is reality, since, if it be found from man's reluctance or otherwise, that there is not man, or man of nature, it would yet be true, that if there be such man, there is reality.

## CHAPTER XXIII.

### If There be Mind of Man, or of Man of Nature, There is Reality.

If there be mind in man, it is in his faculty of reflecting his experiences recorded in his moral constitution and recalled, for reflection, to the exigences of his current life.

In every nature, and, more obviously, in the plant or animal, there is being physiological, and this, a moral being directing the activities of its beings physical in their reactions to the continuation and extension of its existence. But in plant, animal and man the offices of this moral being are different. In the plant sessile at the earth's surface, and in mediation of dynamic forces from the earth, and static from the air, this moral being to be termed the conscience of the plant, has comparatively little office to perform. The experiences of the plant in its stationary being are comparatively unimportant, and are neither recorded in its conscience, or recalled by that for reflection, to the exigences of its current life; and the conscience of the plant, therefore, may be said to be intuitive, merely, of its antecedent experiences, not recorded or recalled, but entering thus of their own motions into the further nature of its life.

But the animal, dependent for the continuation of its existence upon food prepared for it by the plant, must exhibit the activities necessary to the procurment of such food, and to avoid the casualties incident to such activities. And to this, its experiences are so important as to be recorded in its conscience, thence, instinctively to prompt its activities in continuing and extending its existence, however it be unable to recall such experiences for reflection to the exigences of its current life. And while the conscience of the plant, therefore, may be said to be intuitive, merely, that of the animal may be said to be instinctive, also.

But the conscience of man, dependent for his existence upon a range of activities for food and safety far beyond those of the animal, and these in associations of individuals to share in proportion to their contributions to the common store, has need of a conscience not only intuitive, as is that of the plant, and instinctive, as is that of the animal, but reflective of experiences recorded in it, and recalled, for reflection, to the every exigency of his current life. This reflection of the records of his conscience were his mind, and if there be this, or this of nature, there is reality.

There were not this without reality, in that there were not this without man, or man without reality, and there were not this without reality, in that, if there be reality, of this, there were nature, and in nature, man, and in man, conscience, and in the conscience of man the record of his experiences and that moral being in man to read this record and to order the activities it requires.

But if there be not reality there is not nature, or in nature, man, or in man, conscience, or in conscience, the record, or in it the moral being to read the record and order the activities re-

quired. And the man himself, therefore, must have originated his conscience, and its records, and the moral power to scan that record and order the activities proper to the continuation of his existence in the associations necessary to its best and most, and it is safe to say that he has not done this, in that it is safe to say that he does not now know what is his conscience, or its record, or the moral power to scan that record, and prompt activities proper. Nor does he know the physical, chemical, physiological, psycological or sociological activities proper, nor does he know these activities as they now exist in man agamic, polygamic, or monogamic; and by no possibility can man have originated a conscience he does not know, and the modes of whose activity ordered he does not know.

Without this, the mind of man were of reality, and, of reality, there were reality if there be mind in man, without the stipulation that it be of nature. But, in man of nature, it were of nature—necessarily of reality, and if there be mind of man, or of man of nature, there is reality.

## CHAPTER XXIV.

### There is Being Finite.

Presenting thus the reasons available for believing that there is nature of an universe of force, if there be force, and that there is force if there be being finite, or the word of God, or force physical, or space, or matter, or life, or nature, or an universe, or this of nature, or the stars, or these of nature, or the sun, or this of nature, or the earth, or this of nature, or the plant, or this of nature, or the animal, or this of nature, or man, or him of nature, or the mind of man, or this of nature; I will now porceed to show that there is being finite, or the word of God, or force physical, or space, or matter, or life, or nature, or the universe, or stars, or sun, or earth, or plant, or animal, or man, or the mind of man, or this of nature.

And, first, that there is being finite; there is being finite if there be a being not infinite. Being, simply, were being infinite, and the being finite were in the limitations of one mode of being infinite by another infinite as itself; and if there be one such being, there is being finite. And of this there were an universe; for, of being infinite in limitations of each other, there were an universe; and this were exclusive of other being in that universe;

so that, if there be one being finite, there is being finite, possible, but as of this, there is an universe.

And there is one such being finite. The being finite, as I have said, is the being not infinite, and such is every being visible to us from the universe to man, and such is man, himself, and such is that conscious being in man through affections of which he is able to perceive these beings from the universe to man. And as there is such finite, there is being finite. And there is being finite if there be the word of God. There were God but as cause, and he were cause but through means, and through means but of his own infinite beings, of their reciprocal affinities, simply, in reciprocal limitations of each other; and this were the word, expressive of the will of God, in the finites of it possible. This were being finite, and there is being finite, therefore, if there be that word, and, as there is such word, there is being finite.

There is being finite, also, if there be force physical, or that noumenal being of which the physical forces are in phenomena. There is such force, but in the reaction of its elements, or the moment of electric and magnetic force, or of heat or light, or the spark of heat and light—but of such reactions. Nor were there such reactions of the elements of force but as they be vacua and plena, and attractive and repulsive, and in coincidence and differentiation. Nor were they so but as they be of the same elements inversely, and these, of their reciprocal affinities for each other, simply, in such limitations of each other. Nor were they so of these reciprocal affections simply in such limitations of each other, but as with respect to each other they be reciprocally infinite, and finite, but in such their relations to each other. And, this being finite, there is this, if there be force, and, as there is force, there is being finite.

And there is being finite if there be being physiological. This, the being possible of kindred beings different of their reciprocal affinities simply in reciprocal limitations of each other were such as were the being finite of beings infinite in such relation to each other in production of the being finite. And each of such kindred beings different, if not in all respects infinite, is, from its infinite source, and, infinite, therefore, but as it be limited by the conditions of its being at the time and place of its reaction. Every such being physiological, therefore, were a being finite, and there are such beings, and the moment of force, and the molecule and compound of matter, and the plant, animal and man, are such, and, as there are these beings phosiological, and these beings finite, there is being finite.

## CHAPTER XXV.

### There is the Word of God.

There is the word of God, if there be God. There is God, to us, only, as the name for the cause of nature consequence. But while hypothecating God as the prime cause of nature consequence, without a conceivable being or attributes other than those of the power and purpose exhibited in nature, it is inconceivable that he can have actually caused the things of nature without means; or through other means than those of his own beings infinite; or, through these, but as they be finite; or that they can be finite but of their reciprocal affections in reciprocal limitations of each other into the beings intended to exist. This were the word, expressive of the will of God, in the beings of nature. And there is this word, as there be God, who, in no other way, were cause, and who were not God, therefore, without such word; and there is the word, if there be God.

There is not, perhaps, the God of man's imagination. In every nature, plant, animal or man, and every being physiological, in fact, there are two beings different in relation to each other. And the one is causal and the other consequential; and the one in evolution to the other, and the other in involution of the one; and the one life in evolution into nature, and the other nature in involutions of that life. And this so, in the individual man, his conscience is life to his mind, in limitations of that conscience, nature. And in states of man, the individuals are life, and the states, in limitations of individuals, the nature of that life. But the individual man, conscious of life but not of mind the nature of that life, is conscious, perhaps, that it is in representation of human life into the human nature of it possible, but not of that human nature of it possible, which, in his egoistic activities, in preservation of his individual existence, he does not see. So situated, and conscious of mind, as cause, but not of its nature as consequence, he is conscious of that cause of himself consisting in his egoistic activities, but not of that cause of his egoistic activities into the states of man possible. And, cause, God, the only God of whose existence he is conscious, is that God who prompts him to the individual activities possible in continuation and enlargement of such existence; and that God, therefore, who prompts the individual to get the better of other individuals, and the state to get the better of other states. And thus, to man, there is a special anthropomorphic theos, in moral likeness of himself, whom he takes for his God. And as

this is the only God he wants, he assumes this to be the only God there is; and to be the God, therefore, of the animal and plant and earth and universe. It is thus that every stock, tribe or state of peoples agamic, polygamic or monogamic, has had its God to bless them and curse their enemies, and that every sect of monogamic man has such God, whose powers tutelary or destructive, it assumes to administer to itself and other sects. This were the God of man, but not of nature. And it is safe to say, perhaps, that there is not such God of even man. But it is quite safe to say that if there be such God of man's invention, he is not the God of that nature of whom are the natures from the universe to man. The God of human life, but not of human nature, he were not the God of life or nature in the animal, plant, earth, sun, star, or universe.

But, of life and nature, in these from the universe to man inclusive, there is a cause to be termed God. These are consequences, and the consequences of one originating cause, and that cause is God, and there is God, therefore, as there are the countless beings from the universe to man, the every one of which were miracle of consequence without cause, it is not, if there be not God; and, as there were not God, without his word, there is the word of God.

And there is the word of God, as there is being finite which can exist but as it be the word of God. And there is the word of God as there is force, which can exist but as it be the means of the word of God into the spaces and matters and lives and natures of this universe, and, without which, there were not the words of God in such natures, without which, there were not God. And there is the word of God, as there is beings physiological, but the lives of that word into the nature of such lives.

But as I have said, there is the word of God but to the nature of this universe. In that word of His own beings infinite there are the power and purpose to the natures of it possible, and to the possible of each nature, and there is no more. The every race of man, and the every state of every race, and the every individual of every state in exercise of their necessary egoism in preservation of their individual existence, have assumed a special word to them apart from that in force, simply of which, as such race, state, or individual, exists. But whether the God, as cause of this universe of nature, be entirely in that force of which there is this nature, or is himself apart from that word, it is rationally demonstrable that to us, at least, that word in its universe of force is all that there is in this universe of nature visible to us. And this is in the fact that to us in contemplation of that nature

there is in it but cause to consequence, and conseqnence to cause. So as that the God himself, if apart from that word already uttered, can have as little force upon its meaning as can the speaker on that of his speech delivered. Nor is there reason that He should have. There is in that word of God to the every nature of it possible, the mandate that at its time and place it be, and be its possible; and to the star, sun, earth, plant and animal this were enough. There is no reason that either should more than exist, and existing, be more than its possible, to beings after it. Nor is there reason that man be more. There is no reason that at his time and place he be more or less, or other than he is, or that, being as he is, he be vested with the power of being, more or less, or other than he can be. Vested with power to give his life to the life of his race; and in this his bettered soul to the civilization of his race, consisting of the bettered souls of its bettered men departed, there is no reason he should have other rewards than in the practice of his virtues and his participation in that vast, invisible, moral being, which, as its civilization, rules and raises the being of his race it broods and hovers. Some may enter through their offspring, some through their works, but all who, not burying their talents in indulgences, shall have put them to usury in their rising race, will be represented in its moral senate.

But without this, or that there be another than that word of God in nature, there is, at least, that word there is in nature, and so the word of God.

## CHAPTER XXV.

### There is Force.

There is a being in eccentric radiations from this earth's center which, in the mode of its being, is felt as heat; and there is a being in concentric radiations from this earth's atmosphere which, in such mode of its being, is felt as cold; and in the atmosphere of this earth there is an invisible being, of beings eccentric and concentric in reactions, and in an equilibrium of such, the disturbances of which, at any one point of the earth's surface, are reported by the telephone and telegraph at another; and in this, and of these reactions, are formed the elements of non-metallic matters, which, of their reactions, form into waters, which, of their reactions, form into ammonias and carbonic oxides, which, of their reactions, form into ammonias compound, acid and base, which, of their rsactions, form into plants. And there is a

medium of beings in eccentric and concentric radiations of their modes of being from, and on, the axis of the solar system, from which are the sun and planets in revolutions on their axes and in their orbits of revolution on the axis of that system. And the sun and these planets, as to their crusts, are of matters essentially the same as those so formed in this earth's atmosphere, as this appears in the fact that these matters react as they could not if not of the same elements inversely; and in that, under force sufficient, they are equally sublimed to force; which force is that of which the physical forces, heat, light, electricity and magnetism are in phenomena.

And this being, of beings eccentric and concentric on the earth's axis, and in the earth's atmosphere, and on the axis of the solar system, and in sun and planets, so essentially the same, from the reactions of its matters, and from their being equally sublimed to force in such physical forces, is essentially the same as that force into which it is sublimed; and there is force, therefore, as there are the beings of this earth, or its atmosphere, or of the solar system, or the matters of this earth's atmosphere, or these into plants and animals, or the matters of the solar system, or these into sun and planets. And so, also, it may be shown that there is such force, as there be the stars and universe; and as, therefore, there be a being of this universe. And, as there is a being of this universe, there is force, itself, such being.

And there is force, if there be being finite, which were but in force of one being infinite in limitations of another, infinite as itself; and there is force if there be the word of God, but being finite; and force if there be the physical forces, or the one of these—but the finite word of God into the finites of it possible; and force if there be being physiological—but the product of physical beings in force upon each other. And, as there are beings finite, and the word of God, and forces physical, and being physiological, there is force.

## CHAPTER XXVI.

### There are Space, Matter, Life and Nature.

Shown that there is reality, if there be beings real, and that there are beings real, if there be beings of cause as well as consequence within themselves; and that such were space, matter, life and nature, if these exist—in that space, were that illimitable medium of beings rare and invisible, in which are definitely

moving orbs of matter dense and visible—and matter, the limited media of beings dense and visible as orbs of matter moving in orbits of that illimitable space—and life, that being invisible as space, about which are the bodies of plants and animals—and nature, that being in bodies of plant and animals to the visible expressions of their lives, as well as that in the earth, sun and stars in expressions of their casual beings—it remains to the further establishment of reality, but to show that these, as such realities, exist. And it will be shown that they do exist, as such realities, if it be shown that, as beings they do exist.

Every being is natural or artificial. And natural, of both cause and consequence, from an infinite source of cause and consequence; and artificial, of cause and consequence, from a finite source. But the only finite source were man himself. And as it will not be assumed that man at this earth has caused the illimitable realms of space, of whose existence, contituents and operations he is yet quite unconscious; or has caused the innumerable orbs of matter of the existences, constituents and operations of any one of which he was, until lately, quite unconscious; or the lives of animals and plants; or the natures of plants, animals and of man himself, and of the earth, suns and stars; it will not be contended that either is from an artificial source. And, therefore, if they exist at all, they exist of nature, and of infinite cause, into such, their finite consequences possible, and as realities. And so do they exist, and so does space.

We are not conscious of space as a being, either natural or artificial, but only as a void in which there are matters moving. And we can only realize its existence, therefore, rationally; and this in seeing that there is in it, or with it, or from it, that which could not be without it. And this we do in seeing that there are in it matters acting as they could not, without, in that we term space, there be the cause of their existences and movements. And there is just the reason for believing that matters are consequences of a cause in space there is that any other visible being in consequence of its invisible cause.

The plant is visible consequence of an invisible cause in its seed. And the animal, of such cause in its egg. And nature, generally of such cause in life. And the ideas of the mind, of such cause in conscience of the individual man.

Space is in fact to matter as conscience is to mind. And we see in our minds the ideas of beings coming, going and reacting, but do not see the cause of them and of their activities. But, as we may not suppose them consequences without cause, we must suppose them consequences of cause in a sensible being in us,

which, however insensible as a real being to us, is yet creative of these consequences else the miracles of consequences without cause. And so with the matters being and moving and coming, going and reacting in space. That these be not also the miracles of consequences without cause—they are not—we must suppose that they, also, are the consequences of a creative and controlling cause in space.

Not that conscience, creating his ideas, creates its motives to their production; and the less the motives to its own existence. These, as a medium, it must take from some superior creative being, in whose ministrations to its own beings possible, conscience but performs its office in the being, man. And so it is not to be supposed that space, of self-originated motives, creates and moves its matters. But only of motive, from a superior creative cause, does so. But such, space, itself, the consequence of antecedent cause, but the cause of sequent matters, exists as certainly as do the matters it creates.

There is reason for space as a real being, there is, that there is an universal being finite, such. This so universal were exclusive of other than real being in that universe, and of space, therefore, but as it be such being. And there is reason also in that there is an universal word of God such; and this, exclusive of other being in that universe and of space, therefore, but as it be such being. And there is reason, also, in that there is an universal force such, and this, exclusive of space, but as it be force. And if there be space, therefore, it is being real. And it is not being real, only on the one condition that, as being, it does not exist. And that it is being other than the void it is assumed to be, is in the fact referred to, that there are matters in it which were without cause if not of cause in space; and matters in it moving without cause if not moving of cause in space.

There are stars, suns, planets, moons and meteorites in the celestial sphere and gaseous matters in this earth's atmosphere, and matters metallic and non-metallic, and liquid and solid in this earth's crust; and these inorganic and organic. And inorganic in metals, rocks and waters, and organic in plants, animals and men.

These stars, suns, planets and moons, are orbs, which, whatever their determined magnitudes are to space, as are motes to the sunbeam on which they float. And there is reason that the stars, suns, planets and moons are crusts of matter about centers of included space. And that their crusts of matter are in molecules of elemental atoms of matter reacting to produce them, and that of these atoms the one is central and the other circumferen-

tial and that the one is relatively space and the other relatively matter, as are the centers and crusts of the sun and planets. And that the one atom is specific heat and the other atomic density, in every molecule of matter, save those of silicium and carbon, and that these, heat and density, are inversely to each other. And that the centers and crusts of stars, suns and planets are also in such relations to each other. And that the stars are in physical couples revolving about common centers of spaces intermediate. And that centers, as specific heats, are inversely to the matter densities of stars about them. And that there are sun and planets in their orbits about the space center of the solar system. And that space is specific heat to the matter densities of planets about it. And is inversely to such densities—becoming gradually less with their increasing distance from such center—as are the strata of matters in this earth's crust with their increasing distance from the center of the earth.

And such, the matters visible, in space invisible, they were possible of beings invisible in space, reacting into matter visible, as the plus and minus of electricity, both invisible, react into the spark of light visible about its axis of heat invisible. The stars and suns were to the space axis of the universe as are moments of light about their axis of heat. But, without this, the every star, sun or planet, or the molecule or compound of matter at this earth, are, as were the disk of light without its axis of heat, or the axis of heat without the plus and minus electricities, or the molecule of matter itself, without its atoms, or the plant without its seed, or the animal without its ovum, or the ideas of the human mind without its medium of conscious being to produce them.

The matters of the universe, therefore, were the miracles of consequence without cause, if there be not cause in that seeming void we term space. But, the more certainly is there being real in that seeming void in the fact, that all the orbs of matter are moving definitely in their orbits and in relation to each other and to centers intermediate in that void.

It is thus that there are stars in physical couples, and the sun and planets of this solar system. The stars move in their orbits in relation to each other and to their centers intermediate. And so do the sun and planets about a center near the surface of the sun. And the matters, in the crust of each star, sun and this earth, are together moving in their common orbit about the space center of each. And the molecules and compounds of matters inorganic and organic, are moving, potentially, at least, about their invisible axes of reaction.

These movements were not without cause, and cause in that seeming void in which they are and move, if this were all. But, to such movement of every matter, there are forces; and forces to drive them apart and to hold them together; which forces, to sustain this earth in its orbit, are supposed to be those of a steel column or cable one hundred and fifty miles in diameter between it and the center of the solar system, the one keeping them apart and the other holding them together. And such the forces of attraction and repulsion between the orbs of matter in their orbits, there are these, also, between the atoms of matter in production of the molecule, and between the molecules of matter in production of the compounds of matters in the crusts of such planets, with but the difference that in these the forces of attraction are immeasurably greater than those of repulsion, attributable, it is to be presumed to the inductions of their centers of space included by these matters; and in relation to them, as is the axis of electrical reactions to the magnetic moments it produces.

And such, space and matter, they can co-exist but in relation to each other, and of, and from, each other; and as cause and consequence of each other reciprocally. And but as space be cause, and matter consequence—considered in reference to a course of universal cause into universal consequence—and but as space be consequence of matter, as matter is of space, considered in relation to that universal reality existing and vested in the already uttered finite and final word of God, itself to execute its work. And the one, reality, so, also, is the other. And matter, reality, so, also, is space, its obverse.

There is space, therefore, as there is matter. And there is matter. There is a being exterior to conscience whose existence and operations are attested by our every sense. It is gaseous, liquid or solid, dependent upon the ratio of heat to cold in it at the time. And it is invisible or visible upon the same conditions. And in it are the only sensible limitations there are to that conscious being in us. And it exists, therefore, as certainly in such environment of conscience as conscience does in perception of such environment. And to whom there is not matter to him, there is not the sense of his own existence. And such the reason that matter exists; and that there is not matter without space, there is conclusive reason that there are space and matter.

And for reasons, as conclusive, there are also life and nature. We are not more sensible of life in nature than we are of space in matter. Nor do our definitions indicate a sense of life and nature as real beings, or of life as cause and nature consequence. Nor in these would it seem that in life there is more intended

than a new and peculiar mode of being in plants and animals at this earth, not in the earth, itself, or the spaces and matters of the earth, or of planets, or suns, or stars; while it would seem that nature is intended to include a mode of being co-extensive with the beings of this universe. But, justly considered, it will be seen that life is but the cause in its course of nature in the plant or animal; and that nature in the plant, or animal, is but the course of its cause in life. And that these, so related in the plant and animal, are so in every other being of cause and consequence; and that, if there be nature in force, matter, earth, sun and star, there is with it, also, life. And that life is univereal as is nature. And that life, the cause of nature consequence, these are the same to each other as are space, the cause of matter consequence; and different only in that the terms space, and matter are applied to the cause and consequence in beings generally; and life and nature to the cause and consequence in beings at this earth. But if space and matter be beings real, so, also, are life and nature. And life and nature are beings real in that both are of the being real of this universe. And life the real cause of nature, nature is the real consequence of life. And both are substantive realities, therefore, however they be opposite and atomic, to each other; and life be minus and nature plus; and life, electricity, and nature, magnetism; and life the power, and nature, the purpose of the word of God, and life the axle and nature the disk of the wheel physiological of both, whether of these there be the spark, or electro-magnetic spheroid, or plant, or animal. And that both exist, and as realities, is in the fact that without either there were not the spark, or spheroid, or plant or animal, And as there are not only the one but all of these, there are life and nature; as, for the same reason, from the beings of the universe not possible without them, there are space and matter. And thus, and, as realities, there are Space, Matter, Life and Nature. And these, realities, for the reason that each is being finite and the word of God, and being physiological in teleologic evo-involution.

## CHAPTER XXVII.

### There is an Universe; and This of Nature.

There is an universe in that there is being finite of beings infinite of which there were an universe. And the word of God, the universal cause of which there were an universe; and force,

no instance of which were possible but as of this, there be an universe. And of this universal finite word of God in force, there is an universe of nature in that nature were the ultimate mode of life into the finites of it possible, of which, also, there were an universe, as necessary consequence of that universal cause.

In showing that there are space, matter, life and nature, I have noticed the common restriction of life to nature in plants and animals; and if there be but that specific nature, there is not, of this, an universe more than of animals and plants there is an universe.

But if nature be the mode of life in plants and animals, into the plants and animals possible, and life in plants and animals be but the mode at this earth's surface of that reality of which is the earth itself, and of which are the sun and stars and universe, these modes of the reality into animals and plants were the same, analogously, as are its modes into the earth, sun and stars and into every being of that reality in fact. And these processes of the universal reality, into its realities possible, were, for the same reason, nature; and in this there is that which we term nature, and there is an universe of nature, therefore, consequent of the universal reality to cause it. And it is as rationally clear that there is an universe and, this of nature, as its formal cause, as that there is the finite word of God in force.

And that we do not realize the fact of such universe is for the reason that we do not conceive such universe; and, that we do not, is, *first*, for the reason of its immensity, and, *next*, that it comprehends ourselves.

To us at this earth, the universe is as invisible as were the solar system to an intelligence on one of moments of light in the belt of Saturn. To such an intelligence, there were visible but the other luminous particles in a hollow sphere about is, as to any one of us are the stars in the celestial sphere, and as to this, the solar system were not conceivable from its relative immensity, so to no one of us, for the same reason, is the universe conceivable. And it is not conceivable for the further reason that no part is comprehensive of that whole of which it is. The reptile may swallow another larger than itself, but, in that, cannot swallow itself; and so, man, though easily able to consciously comprehend an objective being as larger than himself, as are the earth, sun or star, cannot comprehend the universe of these as inclusive of himself, as he must do, to so comprehend the universe.

But rationally he can and must accept the universe as an actual existence—as he can and must accept the existence of that he has not seen—if he be conscious of that which could not be

out cause in the earth; and the earth in the sun; and the sun in its star; and the star in the universe.

And to avoid the conclusion of an universe of nature, we must accept innumerable miracles, no one of which, rationally, or consciously, we can accept.

Of these, there were a whole but this were not an universe. There were that but as a reality, and that as one whole of cause to its complementary whole of consequence. But there is such universe as the condition of the every such being in that universe. And this—a reality, as being finite and the word of God and being physiological in teleologic evo-involution. and as being both cause and consequence, and cause of itself consequence, and consequence of itself cause—were of nature, but the course of cause into its consequences possible; and thus there is an universe, and this of nature.

## CHAPTER XXVIII.

### There are the Stars, and These of Nature.

To man, at this earth's surface, there are luminous objects visible in that hollow sphere about him termed celestial, which appear to him, as I have said, much as would the moments of light in the belt of Saturn to an intelligence on any one of such moments. These are termed stars and directly they are unmeaning to him and whether they exist, but as such unmeaning orbs, may be questioned; and if they do, they will not affect the question of reality considered. But if these be orbs of matter in orbits mediately or immediately about the physiological center of the whole, and each be in a crust of matter about its centre of space, and be, itself, the central figure of a system of smaller bodies, such, revolving with it about a center of their common being intermediate, as are the sun and planets of this solar system revolving with each other about their center in this solar system; and if, about these, there be smaller bodies to be termed suns and about these there be others yet smaller to be termed planets and about these others yet smaller to be termed moons, they do affect the question much. As there were not the reality, but as it be in teleologic evo-involution, or in such evolution but as of this there be an universe in stars such, so there were not an universe in stars such but as there be of the reality in question. The existence of stars such were conclusive of the existence of reality. These luminous objects are such stars and these are of nature and

there are stars of nature, contingent, simply, upon that these luminous objects exist in something more than our sensible impression from them, which were their existence but in name. And they do exist in something more. If they did not they would not disappear in daylight to reappear at night; nor would they be invisible to us and visible to others while we sleep; nor would they move with respect to each other as some of them are seen to do, and as all of them must be supposed to do; nor were they reciprocally attractive and repulsive of each other as they are known to be; nor were there laws of their movements reciprocally; nor were they capable of light and heat, as they are. And in these incidents of their beings it is apparent that there is something more of being in them than that accorded to them by us in becoming sensible of them as lumiuous objects to be, or not to be, as we may be pleased to look upon them.

And, so existing, they are of space and matter in orbs of matter about their centers of space included and in systems such as is that of the sun and planets of this solar system.

They are of matter. This is apparent in the fact that they are so luminous and in that they are so attractive and repulsive of each other, and in that they are in orbs moving in orbits respectively. They may not all be of matter so integrated and dense as that we term matter at this earth. Many of those objects termed stars may be nebulous and of no greater density than that in vapor, or light form a body burning. But whether solid, liquid, gaseous or nebulous, the star is of that mode of substance at its exterior surface, at least, which we term matter, or it could not so exhibit light, imparting heat, or so exhibit forces of attraction and repulsion.

We may misconceive matter and call that matter which is but a constituent visible of an antecedent space invisible. It may be that space is of beings different as light and heat and that the one is specially repulsive of the other specially attractive of the one, as are the matters negative and positive, and acid and base, and that the positive and base constituent of space becomes visible to us in matter. But, however this may be, it is reasonably certain that we are sensible only of that mode of being we term matter, and that in seeing it or seeing the light and activities of it, we see that it is matter, and in seeing these of the stars we see that they are of matter.

Possessed then of the fact that the stars are of matter, we become possessed of the further fact that they are also of space, or that there is space upon which they are as dependent for their existence and activities as the matter of which they visibly con-

sist. There is reason, as I have said, that there is matter, but of space, and but as the being visible of space invisible. There is reason, also, that the every star is in a crust of matter about its center of space—this being the radiant force from its center in heat to sustain, at least, its matter in a crust about it; but without this, it is reasonably certain that every star is in its orbit with other stars or smaller bodies in their orbits about centers of force invisible which, so invisible, can be nothing else than that invisible being which we term space.

So, of space and matter, in their activities, at least, they are also orbs in orbits. They are visible orbs and can be sustained in relation to each other but as they be in orbits of revolution about intermediate centers of space, and there is reason, also, that every star is of a system of planetary bodies such as is that of the sun and planets of this solar system. It will be found that the sun and planets of the same essential substance are of the same constitutions, analogously, and are in their respective orbits about an intermediate center of space included, which is a sort of moral being in administration of these bodies physical, and there is reason that every star is the central figure of such system and as relatively prominent and important in its stellar system as is the sun in its solar system. There is reason that with every star there are smaller bodies, to be termed planets, and about these yet smaller bodies, to be termed moons; and that we do not see the smaller bodies about the star as at a distance from the solar system, analogously as great, we would see the sun but not its planets, or their moons, even if these were at the radiating stages of their respective beings, while there is reason for believing that there are bodies of matter in the celestial sphere, and even in the solar system of that sphere, which are near enough to be visible, but are not, for the reason, only, that they have passed their radiating stages.

And there is reason that the every star is in such system, in that so it were possible of an universal reality in teleologic evo-involution, which we have reason to believe exists; and in that, such is the system of sun and planets; and such the system of planets and their moons; and such the systems, probably, of moons and meteorites; and that, analogously, such are the systems of force into their beings possible, and of plants and animals through their reproductions and variations into the plants and animals possible.

Such were stars, if there be stars apart from the terms we use to express our meaning with respect to them. And there are these beings apart from the terms we use to express our mean-

ing with respect to them in our intercourse with each other. They existed before there was man upon this earth to name them, and they will exist when man shall cease to be upon this earth, and they now exist as independent of the name we give them, as does the animal, plant, earth or sun.

There are stars, therefore, and these are of nature. The teleologic evo-involution of an universal reality in force, were capable and cause of the stars at their places. The stars at their places were possible and consequences of such reality, and there is not only no reason that they be not of nature, but, the miracle if they be not; and, as there is not the miracle, there are stars, and these of nature.

## CHAPTER XXIX.

### There is the Sun and of Nature.

There is obviously the sun, such most luminous object in the celestial sphere. This is supposed to be of matter, and a stationary orb of matter with respect to smaller orbs of matter, termed planets, moving at graduated distances in their orbits about it, in what is known, from its seeming dependence on the sun, as the solar system. But it is not supposed, generally, that the sun is in a crust of densest metallic matter about a center of included space; or that the surface of its crust is of that metallic matter melted; or that about this surface there is its atmosphere of metallic and metallic oxide vapors; or that these vapors form into granite rocks and fall to form in spots upon such surface incandescent; or that the sun itself, is but a planet, and different but in its greater size and consequent central position from the other planets; or that it also is in its elliptical orbit about the center of the solar system; or that it is being physiological, as is each of the planets, asteroids and comets, and as is that solar system itself; or that the planets, so called, are sequent of each other in a course of planetary being; or that Uranus, the outer known planet, is nebulous to Mercury, nearest to the sun, solid, and now long past the organic stage of its existence, in which is now the earth, and from which Venus is emerging, and into which Mars is entering; or that there are orchean and organic stages of planetary being; or that the comets are of nebulous matters from forces radiating from the focal center of the solar system, and focussed in regions of the solar system, beyond the orbits of the outer planets; or that they are forming, thence,

into planets in their orbits, to join the march of planets in their course toward the center of the solar system ; or that the center of the solar system is apart from the center of the sun, and near its surface, and that the sun itself, therefore, is but a planet, and different from the other planets only in its greater size and force, and in its being the one pole of the solar system, the other of which is at the focal center of the planetary system, exclusive of the sun. Such sun is not accepted, but such were the sun of nature, and there is such sun.

The sun itself, if of nature, were such being of which its center of space were the axis and its crust of matter the disk, and its center minus to its crust plus, and its center, the electric, and its crust, the magnetic, pole of that electro-magnetic being, physiological in its individual process of teleologic evo-involution. But, considered in connection with its planets, including asteroids and comets, also, such beings in such evolution, it were, itself, the axis and its planets the disk of that electro-magnetic wheel, and while the sun's center were minus to its crust plus, the sun itself were minus to its planets plus, and the sun itself, and the solar system of sun and planets were but magnifications of the electro-magnetic spark physiological from the electric forces minus and plus reacting to produce it.

Before there was the sun, as we now see it, there will have been the electricities in sufficient volume from the poles of an exterior battery to approach each other from opposite directions on the axis of the sun, and this, in spirals of attractive and repulsive forces ; the repulsive by the shortest line, as axis between the centers of these electricities and the attractive spirally, and about that line. And the repulsive will have been from the center of the minus to the center of the plus, and the attractive from the plus to the minus. And the minus will have been expended in keeping their centers apart, and the plus in bringing them together at the center of the sun intended.

And the attractive plus becoming, under the conditions, so prepotent as to minimize indefinitely the distance between their centers, and to exclude, therefore, the repulsive minus from that axis, that minus will have radiated by every line possible from that center of coincidence ; and, in this, the repulsive minus, by every such line of its radiation possible, will have taken with it its attractive plus—resistive and tending to arrest the minus at the point possible, and thence return, with it arrested, to the radiating center of the nascent sun. And in these arrests, at the points about the centre of such sun, there will have been special beings in relation to that, at such centers, as is matter to space, and of

these beings, at rest about the space center of such nascent sun, there will have been the sun itself, in its crust of matter and its center of space, the crust magnetic consequent of the center, its electric cause, and thus there were the sun itself, in magnification of the electro-magnetic spark physiological, in which the matter of the sun's crust of matter were the analogue of the disk of light about its axis of heat.

And so, also, and in further magnification of the spark were the solar system. The rest, moments about the centre of the nascent sun, while irrevocably bound to it by the superior attractions of its plus to that minus, were yet each of plus and minus, and of reciprocal attractive and repulsive properties. Such, and so, as that the media of these at sufficient distances from the sun's center, will have combined upon local centers of their own, about which they will have formed rest and inert beings about their centers, relatively to those centers, as were the matters of the sun's crust to its center.

Of these media exterior to those forming into a crust continuously about the sun, there will have been four, each a quadrant of an exterior atmosphere of such forces at rest about the sun, and in each of these there will have been a planet revolving on its own axis, and in its orbit of revolution on the sun. And these orbits will have been in, or near, the plane of the sun's equator, and not about the axis of the sun as the axis of their orbits, but about an axis of the orbits of both sun and planets near the surface of the sun, and at successive and graduated distances from that axis.

These planets will have formed in succession, and the first, forming near the surface of the sun, and taking its orbit with the sun, revolving from west to east, will have added its repulsive forces to the repulsive forces of the sun, in driving still further from it the next succeeding planet forming in the sun's equatorial atmosphere of resisting forces, from which, another planet, forming, that will have been propelled still further, and so on to the planets in their orbits possible in production of a solar system of sun and planets, itself, but an enlargement of the sun as were the sun of the spark. And such in theory the sun, it will be shown that in consistence with this are its phenomena.

## CHAPTER XXX.

### There is a Space Center to the Sun.

Reasonably certain, as I have said, that the sun's exterior surface is of matter, it is as reasonably certain that within that—a hollow sphere of matter—there is a solid sphere of space. It is not probable that this, intensely constricted by the hollow sphere of matter about it, is as penetrable and insensible as are those seeming vacua at this earth's surface we term space. It is probable that it is more impenetrable than is any super-heated steam within a boiler. But still, so sublimed from matter to force, it is no longer matter, if it ever were, and is but that which, in its ordinary states, is insensible to us, and which, for that reason, we term space. This, to distinguish it from matter, is not only insensible to us, but is also imponderable, and while all matter not only affects our senses, but has weight; this, within the sun, has not. And though it be as impenetrable and as solid, therefore, as matter itself, and as destructive to sense and matter, as is the intensest force in heat, it is to us, in consideration of the subject, and perceptive of external being only at a distance and as it be visible in light or matter, but that which we are forced, for the want of a better name, to call space. And such space there is within the sun; and this, for the reason that there are radiations of heat from the sun, for which there were no other source.

If, within the limits of the solar system, there shall have been a medium of reality this will have been of kindred beings different but of the same elements inversely, and these, vacua and plena and attractive and repulsive, will have been in coincidence and differentiation in production of a spheroid prolobate in spindle and spool, of which the spindle will have been axle and the spool disk, and the spindle heat to distend the spool, and the spool cold to constrict the spindle; and thus there will have been heat transpiring the sun's crust of matter to affect, as do the sun's rays of heat, the beings at a distance on which they fall; but without this there is no other source of heat from the sun conceivable. It comes to us from the sun, unquestionably, and not from the matter of the sun, which, but as it be under force, is incapable of heat. And we are forced to assume that it comes from within the sun and from a non-matter which, for that reason, we may term space; and that, of the original reality of the sun's medium, there are such beings in relations to each other, as that from their coincidence on the axis of their common

being intermediate there were radiating heat. And there is evidence, in their conduct of the existence of electricities in that medium, of their being that there is between electrodes in production of the spark of heat and light. There is reason that the beings different of self-differentiated reality are in fact, but the minus and plus of electricity. And as, of these, the plus or crust in their coincidence constricts the minus, as its core, to the emissions of heat radiations, which, disrupting and escaping from the plus become light, so the same beings in force from the larger field of the sun's medium could produce the sun—but an indefinite enlargement of the spark of heat and light—in the emissions of its rays of heat transpiring its crusts of matter to become light in the beings on which they fall, which were else opaque.

And there is the space center to the sun in force for the further reason that the sun is the central orb and organ of the solar system of sun and planets; and, in relation to this system, as the boiler to the engine, and as the boiler were inefficient without steam so were the sun without its included force in heat.

And there is a space center to the sun for the further reason that there are forces of the solar system, upon the sun's center, which would reduce it to space in force if it were originally matter.

It is not conceivable that there can have been original matter at the center of the sun. It is clear that matter cannot create itself and there is no cause of its creation at the sun's center. There is cause of matter in the sun's crust, from differentiation of an original medium of a reality in force of the reactions, through reciprocal intussusceptions of which, there were matter in a crust about its center; but, only, as at that center there be force in space exclusive of matter. But it is not less clear that if upon matter there be force sufficient, even if that force be in pressure merely, it is reduced to force; and there were that force sufficient upon matter at the center of the sun.

It will be found that there is a stratum of the densest metallic matter possible about the sun; and that there is an atmosphere of the vapors of metals and metallic oxide matters to the height of thousands of miles about the sun; and that there are planets with their moons and asteroids and comets impending on the sun's crusts to give it yet greater force upon its center; and a force sufficient to melt the matter possible of the sun's center; and to sublime that to vapor; and that vapor to radiating force in heat.

And there is a space center to the sun for the further reason that the sun's weight is not so great as it would be if there were

not. It will be found that there is a stratum of the densest possible metallic matter about its center, whatever there may be within the sun, and this of twenty-one times the weight of water. So that if this be continued to the very center of the sun it were twenty-one times as heavy as were an equal volume of water.

And if this crust of the sun exist of other cause than that of the reactions of its elements involved, it must so extend and such were its weight. But it is found that its actual weight is but that of an equal volume of water; to be accounted for but upon the supposition that the interior of the sun is of an imponderable substance, with this explanation of its meaning, to be termed space.

*And about this space there is a crust of the densest possible metallic matter.* It will be found that about the sun there is an atmosphere of metals and metallic oxides in vapor, and from this it must be inferred that there is a solid substance—and this, atomically and specifically, denser than the metals of the atmosphere—below, from which the vapors rise and on which they fall. If this be so, the weight of the sun is too great. If all within the sun's atmosphere be imponderable space in heat, the sun's atmosphere of gaseous matters alone were not enough for the weight required, and to the present weight of the sun it is as necessary that it have a crust of dense metallic matter as that this crust shall not extend to its very center.

And there is this crust and this of the platanic group of metallic matters, for the reason that it must be so dense and obstinate not to join the atmosphere of vapors in their dance; and for that there is a group of such densest metals possible at this earth, and these produced at the axis of reaction between the forces of this earth analogous to that between the sun's crust and center. And if, of the static force of the earth in reaction with the dynamic, there can have been such metal, the same, or one more dense and obstinate, can have been about the axis of the sun, and if it can, it must have been about that axis.

And there must be such crust as boiler to contain the steam of the sun. It is clear that the sun is the cardiac organ of the solar system as is the engine of the factory, and as is the boiler to the engine. And that, by graduated steam to the engine only is there its power, so, by graduated force only from the sun, is its power, which graduation were possible but as the sun's force be within its sufficient crust.

And there is such crust, for the reason that there is an analogous stratum to the earth. It will be found that all orbs of planetary matter are of media of realities in force, and are beings

physiological, therefore, in teleologic evo-involution, and are analogous, therefore, not only as wholes, but in the successive stages of their processes. And it will be found that the earth, the one we are able to examine, is of a center of space with its crust of matter in strata, and the first of platano-metallic matter, in analogy to which is the present stratum of the sun's crust, and, as there were not the earth without such initial stratum, there is not the sun.

## CHAPTER XXXI.

### The Sun's Atmosphere of Metals and Metallic Oxides.

Accepting, thus, a center of space and a crust of metallic matter to the sun, it is obvious that about this crust there is an atmosphere of metallic oxides.

It is apparent that about the sun there is an atmosphere of force, and the solar spectrum shows that in that atmosphere, with oxygen, there are the vapors of the several metals known; and these, under a force in heat of nearly 20,000 deg. F., and of nearly 5,000 lbs. of presure to the inch. And, from induction of phenomena, there are reasons for believing that in such force the oxygen does not unite with all metals, but that it does unite with the basic metals, potassium, sodium, magnesium, silicium, aluminum, calcium and iron, in insoluble compounds, the first of which, analogous to carbonic oxide of organic matter at this earth's surface, is silicac oxide, known as quartz, and the others of which are feldspar and mica; the first of which is of the oxides of potassium, silicium and aluminum; analogous to simple ammonia compound—of carbonic oxide and ammonia in plants —and the next, of the oxides of potassium, silicium, aluminum, calcium and iron, analogous to sulphosphammonias compound of the oxides of hydrogen, carbon, nitrogen, sulphur and phosphorus, in animals.

But there is reason, also, for believing that these insoluble compounds possible in such atmosphere of force, are not capable, under the conditions, of either the solid or the liquid state therein, but as oxides and compounds, are in vapor, as are the other metals.

**And there is reason, also, that these elements and compounds, first seen in the sun's atmosphere of force exterior to the plastic stratum of the sun's crust, came there first to exist as gaseous matters, and of the coincidences and differentiations of dynamic forces from the sun's center, and static forces from with-**

out, under their reciprocal affinities simply for each other. And that of these vapors, of which metallic oxides are the most abundant and conspicuous, is the atmosphere, at present, of the sun. And there is such atmosphere as well of theory as phenomena.

Of a supposable solar medium of reality in self-insulation, self-differentiation, coincidence and differentiation, there were, at its very center, an intensity of dynamic force not less there than that in a heat of 50,000 deg. F., under a pressure of 10,000 lbs. to the inch. Between these forces, and at the distance of nearly 400,000 miles from and circularly about such center, there were a neutral area in every radiation, eccentric and concentric, in which these forces will have neutralized each other in moments of the smallest volume of the one dynamic force sufficient to hold distended the smallest density of the other static, about it. And volume, heat; and density, pressure; and volume, dynamic, and density, static; there were thus a cordon of such stato-dynamic beings in particles of the smallest heat to the utmost pressure, and of the smallest volume to the utmost density. These were particles such as are the molecule of platano-metallic matter, and there were thus in theory such platanic stratum about the space center of the sun.

But, in the formation of this stratum—but an elastic medium of the sun's centrifugal and centripetal forces in reciprocal limitations of each other—there will have been expended as much as the one-half of the opposing forces of the sun, so that, while to the exterior of the sun's platanic crust, in which will have been vested the one-half of its eccentric force physiological, there will yet have been a force physiological in radiation of heat not more, perhaps, than 20,000 deg. F., and 5,000 lbs. of resistance to the inch.

And at a definite distance from the sun's surface, not determinable from present data, there were, in every radiation of such force, another neutral zone of these neutral nodes, in a cordon of constrictive force in oxygenic and metallic matters, between the alkaline of which metals and the acid oxygens, there were formed insoluble metallic oxides, which, of their density to volume, will have gravitated to the sun's surface, from which to rise in vapor and fall again, in showers of liquid rocky matter.

Of these oxides, so rising from heat at the center, and falling from cold without, there were an atmosphere of metallic oxides in theory, the fact of which is attested by the solar spectrum and by the spots of such rocks upon the sun, not possible of any other

cause conceivable; and by the fact that at the analogous period of this earth there was such atmosphere.

Accepting that there is nature in the teleologic evo-involution of an universal reality, and that the sun is of nature, and the earth of the sun, we must accept, as consequential, that the sun and earth are in analogous processes, with the difference that the earth, the more remote from the physiological axes of the universe and sun, is more advanced in static being than the sun. That these stand to each other as the successive nodes of reaction in the rays of physiological force from the center of the universe, and that, while in reaction, the sun is negative, the earth is positive, and the sun dynamic to the earth static, and, therefore, further on in its being possible from the center of the universe or sun, than is the sun from the center of the universe or star. And it is quite possible that the sun, so antagonized by its planets, may never advance further in its planetary process than it is at present. It is reasonable that if the sun were ultimate and without other than its own atmosphere of force about it, that force, forming its platanic stratum of itself, and its archean rock stratum, would still go on to form, of its remaining force, such other strata, liquid or gaseous, as might be possible, and as appear about the earth.

But it were not so with other than the weight of its own atmosphere of force upon it. There is now the weight, not only of its own atmosphere of matters, but of the inner planets, and of the asteroids, and of its comets, and of that invisible static being of which are the comets forming. Of these, the pressure in heat upon the sun's surface is immense, and it is possible, therefore, that the sun may never be more advanced in that planetary process to which, without this obstruction, it were committed.

Still, as far as it has gone, its process is, as it must be, that of the planet. And as it will appear that after its platanic stratum, the earth went on to the formation of its archean rock stratum, and after this to its water stratum; and, as to the formation of its archean rock stratum of metallic oxides, the earth must have had its atmosphere of gaseous metallic oxides, so, also, in its analogous stage, must have the sun. The sun is central to its crust and planets peripherential; and the sun is dynamic to these static; and space to these matter; and the sun's center is the minus and electric pole of an electro-magnetic system of which the plus and magnetic poles are the planets at their several stages and in such relation. And while the planets are in conditions to go on to the making of other matter beings possible, the sun itself is not. It could do so only in absorption of the planets,

and in the working up of these material into the successive strata of its crust possible. But against such absorption the planets are in positions to protest. Each is impending on the sun's surface by a force to be represented by the column of steel sufficient to sustain its weight. Of these, planets, asteroids, moons, meteorites and comets, together, the pressure on the sun's surface is sufficient to arrest its atmosphere in process into rock, which, therefore, forms but to fade, to form again to fade, and it is not only apparent that the sun will not advance to the stage of this earth, but probable that it will not, materially or permanently, change from the state in which it is.

It is reasonably certain that of excessive heat upon the sun's crust it would be sublimed to heat and light; it is as certain that, from increase of pressure, there were such increase of heat; and it is as certain that from such sublimations of the sun's crusts and its greater explosive force, it would project the planets to greater distance; that with this the pressure were relieved and that in that were the return of the sun's crust to matter, so that in that relation of sun and planets, the sun, with but secular variations, may remain indefinitely as it is, the archean stratum of its crust being but an elastic medium of these solar and planetary members in reaction.

But that it is in formation of an archean stratum, is attested in the existence of every condition necessary to such process and every phenomenon of its existence.

And there is further evidence of the formation of this stratum in its necessity. In this play of the planets on the sun there is the want of an elastic medium such as that when the planets fall too heavily upon the sun there may be in it the explosive force to be discharged, and when, from this, they fly too far away they may, from its reintegrations, be brought back to their median orbits about the sun. The operations of the sun and planets in this solar system were impossible without such medium, and without a solar atmosphere susceptive, alternately, of states solid, liquid and gaseous, in integration, and disintegration of their beings intermediate—and this as well about the planets as about the sun—which atmosphere, at the sun, at least, were instantly susceptive of such variations.

And so, susceptive, there were, of its gaseous elements, the reactions possible resulting in the compounds possible, which compounds possible were feldspar and mica in a matrix of quartz, of which is the archean rock about the earth, which, nascent, will have appeared as it does in evanescent spots upon the sun. And there is conclusive evidence that there is an atmosphere of

metallic oxide vapors about the sun, in that there are these spots upon the surface of the sun; which were possible of mica, feldspar and quartz, hardening from the liquid state possible under the conditions probable at the sun's surface, but of no things else.

It is not only supposable that there are the oxides of potassium, sodium, magnesium, calcium, silicium, aluminum and iron forming in the sun's atmosphere, but there are these attested by the spectrum. And it is of induction that there are in it the rocky matters feldspar, mica and quartz and these liquid at the time of forming, to harden at the temperature of but a little distance from the sun, to fall back upon it in spots to evaporate and rise again; and beside this, there is no other hypotheses conceivable for these phenomena.

There is thus not only the sun in its crust of matter about its center of space as a necessary nucleus of a solar system, but upon this the metallic oxides necessary to the sun as an elastic medium of solar and planetary force, and which, at the surface of planets in process to their organic states were necessary as the source of soils for plants to feed the animals.

These oxides—the elastic medium at the sun's surface between sun and planets—are the elastic medium at the surfaces of planets between the planets and their products animal and plant. And the sun, therefore, in its center of space and its crust of matter with its stratum of metallic oxide force, is the sufficient and necessary condition to a family of sun and planets such as are these, the one of which is this earth, in process to its organic stage, upon which are to appear the plant, animal and man; and indicating, in this, that it is a solar being into soloplanetary being, and that the being in its course of being, we term nature.

But, whatever their significance as facts, it is apparent that there is space center to the sun within a stratum of platanometallic matter about it and about this an atmosphere of metallic oxides instantly in process into archean rocks resisted by the planetary beings opposite, into which go the surplus forces of the sun as to plants and animals go the surplus forces of this earth.

## CHAPTER XXXII.

### And Its Four Inner Planets.

Exterior to the sun's atmosphere of metallic oxides there are first to be noticed its four interior planets, Mercury, Venus, Earth and Mars, the next succeeding stage in evo-involution of the sun.

In theory of the solar medium in evo-involution, there were the sun in its crust of matter about its center of space, and about this, its atmosphere of force in metallic oxides. But, for the reason that there were the platanic stratum and its atmosphere of metallic oxides, there were, exterior to its atmosphere of metallic oxides, a still more distant atmosphere, also of force, and of dynamic force in heat, met by static force in cold. There were, through the sun's platanic stratum, and of dynamic force in heat radiations from the sun's archean surface, into the atmosphere of space beyond, refractive of such rays. There were thus refracted radiations by the sun's platanic crust, and its exterior atmosphere of force to the plane of the sun's equator, so that, in the plane of the sun's equator, extended to beyond the orbits of the most distant planets, there were the convergences of rays from all the points of the sun's surface north and south of that equator, and so that the plane of the sun's equator were, itself, but a plane of these forces in convergence.

But in this plane there were self-insulations, resulting in successive belts of forces in convergence. These about the sun were, as are the rings about the planet Saturn. And of these belts exterior to the sun's archean atmosphere there were four, and all, but the coils of one spiral belt of force, so continually in radiations from the surface of the sun, and so refracted to their meeting in a spiral of one continued axis of their reactions, extending from the sun to the utmost limit of its radiations.

There were four such coils of the sun's spiral belt about it, and in each coil there were four parts, each a quadrant, for the reason that in every reaction of reality in force there are four factors and four products. In the minus and plus of electricity there are two factors in each, and these the minus and plus of minus electricity, and the plus and minus of plus electricity, and in magnetism, south and north, these, and in heat and light, these, and in electricity and magnetism, these, while in every resultant being physiological, there is the geometrical consequence of such cause.

For this reason there are, in every being physiological of

such forces, four parts about the axis, and from quadrants of the disk about the axis of forces in coincidence and differentiation; and four strata, the platanic, archean, water and organic, to the earth; and four archean elements oxygen, potassium, silicium and aluminum; and four organic elements, oxygen, hydrogen, carbon and nitrogen; and four orders of plants, the cryptogamic, phanerogamic, endogenous and exogenous; and four orders of animals, the radiate, annulate, articulate and vertebrate; and in the plant four orders of physiological activity, the two in roots to support the stem, and the two in stems to support the roots; and in the animal, its four limbs to its locomotive activities.

And, such the self-insulations, and self-differentiations of every medium of reality, such were the self-insulations of that medium of reality in the plane of the sun's equator, from coincidences and differentiations in it of forces refracted into it from these circles of emergence at the sun's surface north and south.

And, such the belts of force about the sun, there were each of these in quadrants of static force about centers of dynamic force. For the reason that force, emerging from the surface north and south, were refracted to the plane of its equator; for the same reason, the forces emerging from the four quarters of the sun's equatorial surface, were refracted to the zenith of such quarters, and that, in the revolution of the sun upon its axis, there were the revolution of its belts, but these in media, each a quadrant of such belt.

And reason, also, that in each such quadrant medium, there shall have been self-insulation, self-differentiation, coincidence and differentiation in production in each of a spheroid prolobate, and wheel physiological in revolution on its axis, and in its orbit of revolution in the axis of the sun, such as is the revolution on the sun of each its inner planets, Mercury, Venus, Earth and Mars.

And such belt of being spirally about the sun, the planets will have been in succession, and the orbit of the first to start will have been nearest to the sun, and the others will have been in the order of their respective physiological distances from the sun.

To each there will have been four stages of planetary being, the platanic, archean, water and organic, and all the planets of the sun's first belt will have been about the same stage, and the earth, being now in its organic stage, all the other inner planets will have been about such stage.

And such the deduction from the hypothesis of the sun in

evo-involution of an universe of reality, such are as clearly the inductions of phenomena.

It is apparent that, to this earth, there have been its four periods, the platanic, in which was formed the densest metallic stratum of its crust; the archean, in which were formed the silicic oxide rocks; the water, in which were formed the carbonic rocks, of beings dead, and the organic matters, plant and animal of matters living. It is probable that in this planetary process to its possibilities the planet Mercury is the most advanced, and that Venus is next, and the Earth next, and Mars, the last, and that these all are in and about the organic period.

And such the inner planets, they were possible of such subnebulous belt of space and matter about the sun, and, possible of that, they were consequence of that, in that such belt capable were miracle, if not cause of these planets, and such planets possible were miracles, if not consequences of that belt.

Hence, to their production in solar process of the sun, there remains but the question whether such solar belt were possible, and that possibility is demonstrable. The photosphere of the sun, in production of its metallic oxides, is of vast equatorial diameter under a force of probably 25,000 deg. F., of heat, and 5,000 lbs. pressure to the inch. Of this, from its surface, there are radiations in all the directions possible; but these are into a refracting medium, by which they must all be ultimately focussed in the plane of the sun's equator, extending from the sun's surface to its outer cometary orbits, which were but a plane of space with infinitesimally minute matters incident upon it.

This solar disk of space and matter were in revolution on the sun as axis, and of matters repulsive of themselves, and of spaces, repulsive of themselves, and of matters and spaces reciprocally attractive of each other. Thus there were, in result, successive elliptical circles of space in this disk of successive distances from the sun, about the possible points of which, there were the matters possible, incident. The space repulsive of itself will have tended to segregations into such circles; the matters repulsive of each other will have tended to widen and sustain such segregations.

And the solar disk possible, and necessary, the successive belts of space and matter in it were possible and necessary, also, and the breaking into quadrants of the first of these exterior to the sun, and the formation of these quadrants into orbs were necessary, also, and about the sun, therefore, as the cardinal nucleus of a nature of that medium of reality, there is in this solar system, there were, as there are, the inner planet, Mercury,

Venus, Earth, and Mars. These are natures of life in nature. They are of nature as, for the same reason, the sun is of nature, and there is nature of the sun, of the nature of the universe, but these inner planets of that nature.

And, such the theory of the inner planets, by deduction from the theory of a solar medium of force within that sphere limited by the outer planets and the comets, this theory is enforced by induction of phenomena observed. These planets are seen to be orbs of matter in their orbits, as theory requires. And without the possibility of their being such from other cause, and they are obviously in successive stages of planetary being; Mercury is beyond the organic stage at which is now the earth, as is suggested by its appearance and by its nearness to the sun, and by the absence of its moons.

In the planetary forces of evo-involution there were moons about the planets, as there are planets about the sun. In that process of evo-involution there were at the archean stage of its atmosphere, belts of attenuated force, and these breaking into quadrants forming into orbs as about the sun at its archean stage, there were such belts. And this the suggestion of theory, there is no reason apparent that there were not such moons about such planets, and there is reason that there were in that the outer planets there are moons, that about Mars there are moons, but apparently reduced and apparently absorbed, that about the earth there is a moon, possibly but the one remaining of the four, or multiple of four, with which the earth was originally endowed; and that about Venus and Mercury; more advanced from the archean period, there are not moons; and in this there is ground for the suggestion that in its moons are the reserves of force thrown out by the planet at its archean period to be absorbed by it in its subsequent organic process; and for the suggestion, enforced by the fact from this one moon of the earth there has been withdrawn much of the electric force with which it must have been originally endowed.

The surface of the moon would now seem to be of matter solid in ice from the loss of the heat through which that matter was originally formed; and formed to states of atmospheric vapor about the moon, and it is consistent with the phenomena, that, to the moon, even, there has been its archean and organic periods; that the organic is ended in the want of electric force to sustain that magnetic process in its operations, and that in moons there are processes of formation and dissolution in their attendance on the planets; and that the planets, themselves, are in a common process of the planets possible from the comets forming in the sun's ex-

terior atmosphere of force to flow through outer planets, asteroids and inner planets to the sun of whose radiations thence of forces there are the comets forming into planets to form into the sun.

It is not necessary that we see this flow of planetary into solar force. There are these inner planets now subtended from the sun, and yet bound to it by forces as real as the cables of steel of the strength to hold the planets to the sun and yet keep them apart from it.

This force is in a prolate spheroid of the forces of attraction and repulsion between these planets and the sun. Each of space and matter, as is the sun; and these spaces and matters related, as are the plus and minus elements of electric force, and the electric spaces being at the centers of these bodies, and the magnetic matters at their surfaces, the space center of the sun is attractive of the matter crust of the planet, and the space center of the planet, of the matter crust of the sun, and the space center of the sun is repulsive of the space center of the planet, and the matter crust of the planet is repulsive of the matter crust of the sun, so that while these bodies are reciprocally attractive, they are reciprocally repulsive.

They are thus in polar relations to each other in an electromagnetic system of force; and this a prelate spheroid of these forces, in which the sun is electric to the planet magnetic, and the sun prolate, and the planet, oblately about it in the way possible; and this the way of a prolate spheroid at the poles of which are the sun and earth, and this in revolution of the planetary on the solar forces. In this the sun and planet were the polar forces minus and plus in an insulated medium of these forces—self-differentiated of their reciprocal inductions—and as in such relation the minus of force might silently and visibly administer the plus to its exterior operations, so silently and visibly might the sun administer its planets to the production of exterior nascent planets in the form of comets.

It is not proposed to show definitely how this is done, but only how it might be done, in perfect consistence with phenomena of a solar medium of reality in evo-involution; and, theory requiring the inner planets with nothing to show that they are not the planets required of such medium in such process—which were that of the solar system as a nature of the universe of nature—and with everything to show they are, and are inexplicable without, there is so much, at least, to show that there is this solar system of the nature of the universe, and these inner planets of the the nature of the sun.

## CHAPTER XXXIII.

### And Its Asteroids.

Exterior of the orbits of the inner planets and between the orbits of these and of the outer planets Jupiter, Saturn, Uranus and Neptune, there is a group of planets termed asteroids, one hundred and twenty-five or more, in number, some of them exceedingly minute, and some as large as is this earth's satellite, the moon.

These asteroids are as to their surfaces, of matter, as are the planets, inner and outer, and each is in a crust of matter about its center of included space; and as the sun and planets is the being physiological of heat, and cold, and dark and light, and space and matter reacting, and as each of the larger bodies is central, as is the earth or other planet to its moons, and these to their meteorities, and as is the sun to its planets and these to their moons, and, as the group of asteroids is in its orbit about the sun, and this at or near the fifth planetary distance from the sun, it is to be presumed that it is but a planet, but one compounded of four planetary systems, each a quadrant of its planetary disk and in the evo-involution possible under the conditions as is each planetary system in evo-involution of its medium, and as is the solar system itself in such evo-involution.

There is reason that the sun and its planets are of beings different; the one dynamic, and the other static; and the one, volume, and the other density; and the one, heat, and the other light, and that of the reactions of these beings different are the sun and planets; and that the sun is in its course of beings possible at the center of the solar system; and that the planets are in a course of being possible exterior to the sun; and that of these beings in reactions of coincidence and differentiation at the surface of the sun, there are radiations of their products which first appear in nebulous matters termed comets at the exterior of the planetary disk to advance, as it be possible, through planetary stages of hydrogens oxide and of metals oxide, and of metallic states inversely to that process apparent in the earth's crust.

And such the planetary process through comets into outer planets, and through these into asteroids, and through these into the inner planets, Mars, Earth, Venus and Mercury, there is reason that the planet becomes colder as it approaches the sun; that Mercury, the nearest to the sun, is now the coldest of the planets,

and that this of excessive cold, is to be absorbed by the heat of the sun and radiated thence to the outer surface of the planetary disk—there to begin again as nebulous comet the process of its planetary being in reaction with the sun.

There is reason that there is such course of planetary being in the plus of electricity reacting with the central and solar minus; and such in planetary light about its solar heat; and such in the planetary crust of the earth with its solar center of included space, however we be unable to perceive such course.

There is reason that the invisible is indefinitely greater than the visible and that of the electric moment of its beings, minus and plus, reacting; and of the spark from heat and light, reacting; and of the earth from its space and matter, reacting; and of the solar system from sun and planets, reacting, there is not the one-millionth part visible to us of the beings actually involved, or that the visible are more than the motes upon the sunbeam.

There is reason, also, that the heat received by any one of its planets is not, to any appreciable degree, from the direct rays of the sun, but from the concentration of its rays refracted by its exterior but intermediate medium of static being to a focus at the center of the planet, and that, in this, the heat the planet gets is not from original force of projection from the sun, but from the constrictive force of local static being on that dynamic being so vaguely radiated from the sun that the heat, so possible from a fourth of the radiations from its surface condensed and focussed in the exterior cometary region by one quadrant of the sun's static disk, is immeasurably greater than that possible to even the planet Mercury, so near the sun, but without a larger lens of the static being intermediate, to take the solar rays.

There is reason, also, that there is the planet Vulcan, and that this is the last visible of an antecedent quartette of planets of which the static being occulated, absorbed or dissipated by the sun's dynamic being, has gone thence as food for comets to the outer regions.

And that so as it has been with antecedent planets of the sun, so it has been with antecedent moons of this earth. There is the same reason that there shall have been moons in fours, to every planet there is, that there is a moon to any planet, or a planet to the sun.

There is reason that the moon of this earth has lost its heat, that its surface now is of water frozen, that this evaporates as, ultimately, must its underlying rocks, and that this must disappear and that so have disappeared its antecedent moons, and so

the moons of Mercury and Venus, and that so are disappearing those of Mars.

And such the rationale of sun and planets, there is reason that the group of asteroids is, in effect, but a single planet between the inner and outer group of planets; but, as such, that it is the representation of one of the four planetary belts about the sun and that the many asteroids are but the planets, moons and meteorities possible of four such planetary media in evo-involution within the orbit of a single planet.

It may not be possible, in the present state of information, to say why it is that while other quadrants of the solar belt are in single planets there should be these four or this belt of asteroids in the place of a planet in its orbit. But our ignorance upon this subject is no sufficient warrant for the miracles there would be in the special creations of these asteroids, and in their special activities in correspondence with other members of this solar system. And the solar system, itself, of the evo-involution of an universe of reality, the groups of asteroids, as the inner planets, and the sun's atmosphere and crusts, are of the evo-involution of that reality within the medium of this solar system. It is not more necessary to say why there is the difference between the asteroids and planet than it is to say why the intermediate substance differs from the nucleus and limiting membrane of the plant cell, or why the messoderm differs from the endoderm and ectoderm of the animal. In the process of the solar system there are the inner and outer planets with the asteroids intermediate; and in the cell of the plant there its nucleous and limiting membrane, with protoplasmic matter intermediate; and in the process of the animal there are its endoderm and ectoderm, with organic matters intermediate, different from both, and it is not more necessary to that idenity of these beings that their apparent differences be accounted for in one case than the others.

It is reasonably certain that the solar system is a physiology of members reacting about their vital axis, analogous to that of the animal or plant. There is a vital axis to the animal or plant about which there are endoderm, messoderm and ectoderm; and it is probable that the inner planets, asteroids and outer planets are endoderm, messoderm and ectoderm about the sun, and as there were not the endoderm and ectoderm, without the messoderm, or the messoderm without the endoderm and ectoderm, as in any case they are in relation to each other, so it is probable and demonstrable, perhaps, that there are not the inner and outer planets without the asteroids, as they are; or, the asteroids, and as they are, without the inner and outer planets.

## CHAPTER XXXIV.

### And About the Asteroids the Outer Planets.

To the exterior of the asterodial orbit, and at the sixth planetary place from the sun, and in the equatorial disk, there is the planet Jupiter, and at the seventh, Saturn, and at eighth, Uranus, and at the ninth, Neptune; the four composing, possibly, the quadrants of a third nebulous belt about the sun.

In these there are differences from each other. Jupiter the first, being much the largest, and Saturn the next, Uranus the next, and Neptune the next, and Jupiter the densest, and the others in order to it; and Jupiter with traces of belts, apparent about Saturn, but not apparent about the rest; but all with nuclei apparently incandescent as though they were in or about the archean stage of planetary beings; as are the inner planets in and about the organic.

But, such the differences of the outer planets as between themselves and as between them and the other members of the solar system, they are not such as unfit them for that system, or as warrant their call for another source. They are yet of the same being finite in force as is the sun, and of this in space and matter as is the sun, and in the same apparent processes as is the sun.

As to the sun there is space center so, possibly, there is to these; and about this a platanic stratum so possible about these, and about this, an atmosphere of metal and metallic oxides, so, probably, about these.

And as there are planets in orbits about the sun, so there are moons in orbits about these planets; and these planets are in relation to the sun as they would be if produced by the sun in the course of its solar being possible; and as they could not be produced of any other finite cause. Nor is there other finite cause of their production conceivable; nor, produced in any other way, is it conceivable that they could be so in their orbits about the sun, and moving in vast velocities but in such exact relation to each other and the sun as that there is not an unaccountable variation of the one-thousandth of an inch in one thousand years. Such correspondence were consistent only with a creative cause in the axis of the sun, and vested in that axis. It is not enough that there shall have been an exterior creative power to lay down that axis, and to have built, as the machinist could, the crust, atmosphere, inner planets, asteroids and outer

planets about it. But, to such the movements of these planets, this vital power must have itself entered into and continued in that axis to its work completed; and have created instantly at their successive times and places the beings and their movements apparent in the work.

There must be not only a creator but a continuing creator to the beings and movements of these planets. They must be created where they are at any instant of their being, and at the next, and the next, to the instants infinite of their existencies, or they must result as they are in motion of cause in the axis of the sun where hypothesis requires it; and the hypothesis miracle; without phenomena, the phenomena were miracles, without hypothesis, both of which concur in saying that of the finite sun there are its outer planets; and that, of the nature of the sun, there are these planets.

## CHAPTER XXXV.

### And About These, the Comets.

There are from regions beyond the orbit of the planet Neptune, in the orbits the most eccentric, and at possible angles to the solar plane, certain nebulous and luminous bodies, termed comets. It is not definitely known that the substance of these comets is of radiations from the sun, or that there is an exterior belt of nebulous matter beyond the orbits of the outer planets, or that this is in quadrants, or that these are of space, simply, or matter simply.

The only facts definitely known are that they are of light importing heat, and the physical forces generally; and that they are transparent; and that they move in definite orbits about the sun; and that they heat the sun and are themselves inflamed at perihelion. And while these facts are not inconsistent with the formation with these comets in celestial interspaces, apart from this solar system, they are inconsistent with the supposition that they are of other than being finite in process into the beings finite of it possible, and that, in orbits about the sun, they are not, as such, the members of this solar system.

There are place and time and space and matter in that vast medium of being invisible about the sun and in these cometary interspaces, and in these—of the least of space possible to the most essential matter—there may be found the nuclei of new beings finite to germinate and grow into planets in connection with some solar system; and that so, these comets may have

come within the sphere of this solar system without being the results of radiations from it, as ammonias and carbonic oxides in the atmosphere, of other cause, enter the system of the growing plant. But as certain as such compound becomes in substance part of the plant, so certain is it that on entrance, the comet becomes to be part of this solar system. In this sense is it that of the solar system are its comets; it may not have made them, but of its system it will have drawn them in. That system is of its dynamic and static being, the one radiant and the others convergent, on its axis. And there is activity in being static from without, as there is in being dynamic from within. By this static solar being they will have been imported in their orbits to the sun, and, as such, may be regarded as the inspired, or captured product of that finite sun in its being that it can be. And, existing exterior to the outer planets as they might, they are of this solar system as are the planets, and there is thus not only the one of these being in the sun but there the whole of them, in that there were not the one possible without the other.

And each of these an anatomical element of this solar system, each is a physiology, and, physiology, nature, each is a nature, and there being of these elements a whole solar system, and each a nature, the whole is a nature and there is a solar nature.

There is this system and this is of nature in that it is not of art. It is a real being, and of real beings, there are but two causes; the one in the resolutions of an original reality, and the other in the mechanical manipulations of the one reality by another, and the horse, a nature, the velocipede is art; and the solar system, not an art, is a nature.

And it is a nature in that it is a being finite. There is nature in the being finite, and nature in the beings finite of it possible; and the solar system, being finite, is nature, and the solar system being finite into the beings finite of it possible at its time and place within this universe of being finite, is nature. And it is nature in that it is through evo-involution of the being finite. The finite, nature, and the process of the finite nature, that process through evo-involution of the finite, and this through evo-involution of the finite, is nature.

And it is nature in that it is the word of God. There being God the universal cause through means of his own infinite beings finite expressive of his will in the finites of it possible, and the finite possible, nature, that word were nature, and that word into its words were nature, and this solar system one such word, is nature.

And it is nature in that it is a being of force. That is an universe of being physiological, and being physiological, nature, the solar system of such being, is of nature. And of nature, in that it is consequence of cause and the cause of its consequences; and of nature, in that there are but two modes of cause, the one physiological and the other theological; and the one, nature, and the other art; and the one of being capable from within itself of the beings of it possible; and the other of being not capable from within itself of the beings of it possible, but dependent for its beings on the forces of an intermediary theos of God's appointment, with special powers to special occasions arising in every new being coming to exist.

And the solar system not of art but of nature, the comets are of the nature of the solar system, and the solar system of the nature of the universe.

## CHAPTER XXXVI.

### There is Also the Earth, and This of Nature.

To us on the earth it is more obvious that there is the earth and of nature, than that there is, so, the sun. We have, in so many ways, the sense of its existence that no one of us hesitates to accept it as a definite and indisputable reality. We know that the sun exists as an objective reality but through the impressions it makes upon our senses of touch and sight. We feel a force from it which, from our sense of like forces here, we term heat, and we see a force from it which, from our senses of like forces here, we term light. And as through touch and sight we take the sense of these forces, only, as the consequences of causes in objective realities to produce them, so we come to have a sense of the existence of the sun, and of this as an orb of heated matter in revolution on its axis, but without other direct sense of its phenomena to indicate its constitution, its modes, capacities, or office.

But we know that the earth exists as an objective reality, not only through our senses of touch and sight, but through the every sense and sensation by which we are forced to continue our existences with it. And we are consciously and unconsciously as assured of the real existence of the earth, as of our own.

But we are not so assured of the facts of the earth to show that it is a reality of nature. To be so, it must be of forces electric and magnetic. And electric in and from its axis, and magnetic in and from its crust of matter, in innumerable magnets re-

volving on that axis of electrical reactions to produce them in such crust, analogous to planets about the sun, and asteroids and comets, forming to their places possible about the asteroids and inner planets, and representing, in their successive states, the successive strata of the earth's crust in its formation about the axis of the earth.

And such the electro-magnetic earth required of a reality in force; to this it were necessary that there be a hollow sphere of magnetic matter about a solid sphere of electric space, and that this matter be in strata, the first of the densest possible metallic matter, and the next of the oxides of the rarer metallic elements reacted into the granite rock, and the next of hydrogens oxide in water liquid, and next of ammoniated carbons into a series of beings, possible of these, termed organic—the first of which will have been the plant and the next animal, and the next, man—existing as a dermal envelope of organic matters about the included strata of inorganic matters in the earth's crust about its center of included space.

And not only must it be itself such electro-magnetic system of axis electric to its crust magnetic and an electric system of axis, minus, to its crust, plus, but it must be the magnetic member of an electro-magnetic system of sun and earth, in which the sun is minus and the earth plus, and the sun electric and the earth magnetic. And this in teleologic evo involution into peripherential and progenital systems electro-magnetic possible, analogously to the earth, as are the planets, asteroids and comets to the sun—the electric member of the solar system—in which evolution there are plants about the earth as there are planets about the sun, and animals about plants as are asteroids about the inner planets, and man about the animal, forming to his possible, as are the outer planets, and comets about the asteroids, inner the planet and the sun.

Such the earth required; if there be this, there is reality. And whether there be this is a question of the answer to which we can more readily satisfy ourselves than of that to either of the others yet suggested. That there is the word of God, or being finite, or force, or space, matter, life, nature or of nature, the universe, star or sun, is known to us but by induction of phenomena of each, or by deduction from hypotheses of an universal cause established by inductions of the phenomena of all.

But that there is the earth, and such earth, may be established, if it be true, not only by the phenomena of the earth as a whole exterior, objective being, but by the phenomena of the every being of which the earth consists, the one of which were not pos-

sible without the earth; such in teleologic evo-involution of which man himself is the final term, who will know that there is such earth from knowing that he himself is of it. And if, upon the question, therefore, of whether there be nature of being physiological and the reality such being there were no other, the evidence afforded in the existence of this earth and its beings were enough without that in the beings mentioned.

It is seen to be the third of an inner system of planetary orbs of matter in their ellipitical orbits about the sun in one of its foci. And it is, or will be, found to consist in a crust of matter about its center of included space. And it will be found that this crust of matter, not more, probably, than one hundred miles in depth, is in successive strata formed at successive periods; the first, about its center of space, consisting of the densest metallic matter known, and solid only from the pressure of other matters on it; and the next of metallic oxides, and the next of water; and that to the exterior of this there is an atmosphere of gaseous matters, consisting of oxygen and nitrogen in the proportion of one to four with small and unequal percentages of water, ammonia and carbonic oxides.

It will be found, also, that, within the hollow sphere of the earth's first stratum of metallic matter, there is an explosive space in heat that crust is hardly able to coerce; that through the interstices of that stratum there have been radiations of heat met by cold from without, of which were formed the archean rock stratum of metallic oxides and its water stratum of hydrogens oxide, and its atmospheric stratum of non-metallic elements and compounds.

And it will be found, also, that of the gaseous matter compounds in the earth's atmosphere, there have been formed ammoniated carbons hydrate. And that of these compound ammonias have been formed plants through the successive orders possible from cryptogamic sea-weed to phanerogamic forest trees. And that of these compound ammonias with two additional elements of matter, sulphur and phosphorus, there have been formed more complex ammonias compound, and of these, animals, through the successive orders possible from the lowest radiates to the highest vertebrates.

And such the earth's presentment of itself, it will be seen that it is in every way such as it were, by deduction, from the hypothesis of an universe of force, and that it is a nature, therefore, and such, is a reality.

## CHAPTER XXXVII.

### There is a Space Center to the Earth.

**At the surface of the earth, and to a distance down, not determined, there is in detrita the matter of archean or granitic rocks with which at greater depths are mixed the matters of the denser metals subsiding from states of vapor, at or near its exterior surface; and that in chemical composition with the soluble** metallic elements of the rocks, are organic matters, the products of organic life.

This archean detrita so mixed with foreign matters is in geological formations—of the latter upon the earlier disintegrations of the original rock—from the primordial to the post-pliocene inclusive. And of these formations of the rock which cover the earlier and lower portion of it not yet disintegrated, is that only portion of the earth's matter yet observed.

But it is reasonably certain that these formations of the rock, or the rock itself, does not extend to the very center of the earth. The rock is but two and one-half times the weight of water and the earth is five and one-half times that weight; and if the rock extended to the very center of the earth that were but one-half as heavy as it is. And to its observed weight there must be a denser and heavier stratum of matter below the rocks. And there are reasons for believing—given latter—that this stratum is of the metal platium, the densest and heaviest known.

But there is reason, also, that this does not extend to the very center of the earth, as, if so, the earth were as much too heavy, as without such stratum, it were too light. The metal, platinum and its groups is twenty-one times the weight of water, and if, from the supposable interior surface of the archean rock, there be this metal to the very center of the earth, the earth were nearly four times as heavy as it is. And the present weight of the earth, requiring that there be the archean rock and platanic strata to its crust, requires that there be these in a crust about its center of counteracting force in the substance of that seeming vacuum we term space.

It is not proposed that this space is soft, or penetrable, as is that void of sensible matter at the earth's surface we term space; but, on the contrary, that it is confined and pressed upon by a stratum of the densest matter known; and that it is as hard and impenetrable as is that matter, and with the difference,

only, that the space is expansive, and the matter constrictive, and the one radial and the other peripherential, and the one energy and the other inertia, and the one energy in the production of the hollow sphere of inertia about it, and the hollow sphere of inertia in production of its spherical center of radiating energy, and this simply from their reactions.

It is not true, perhaps that there is any difference between space and matter but in their aspects; or that space surrounds itself with matter more than matter surrounds itself with space; but that we see matter, but not space. That conscience, itself, of space and matter, is active and passive, and active in space and passive in matter; and, in looking from space into matter, sees itself surrounded by the matters possibly visible, and in the forms possible about it. And these aspects of matter to conscience, are the same as those of matter to any other space; and as of light to heat, and magnetism to electricity, and the planet to the sun, and the sun's crust of matter to its center of space. It is probable that space sees matter in accepting its environment in matter, wherever it is, and that, seeing space at any place, we take its place, and see its matter as any other space would, or does, see its matter.

Probable that both space and matter are finites, and vacua and plena, and attractive and repulsive, reciprocally, and at every intermediate point are in coincidence and differentiation on the median line of their beings common; it is intended that, with respect to the center of that axis of coincidence, the one is a hollow envelope, and the other the solid sphere enveloped; and—the one space and the other matter—that the space is imponderable from its greater tendency to leave that center, and the matter ponderable from its greater tendency to reach it. And, such the space center of the earth intended, there is this center.

First, for the reason that there is a crust of matter to the earth which were possible but as that crust of matter be about a center of space. Of space and matter, the one motion and the other rest, and the one imponderable and the other ponderable, both are finites; and of the same elements of being, therefore; and both reciprocally dependent, the one upon the other for its beings possible, and so dependent, there were not the sphere of space without the hollow sphere of matter to produce it; and there were not this hollow sphere of matter to produce that solid sphere of space, without there were that sphere of space produced, and to produce that hollow sphere of matter.

And, there is that space, also, in that the weight of the earth, without this, were other than it is. This is found to be now five

and one-half times that of water. But the surface matter of the earth is but two and one-half times that of water, which, extended to the center of the earth, would give it but half its present weight, to show that under the earth's surface matters there is a stratum of matter many times more dense. It will be seen that this stratum is of the metal platinum, the densest known, and twenty-one times the weight of water. This extended to the center of the earth would give it four times the weight it has. And as it has the weight of but five and one-half times its bulk of water, it must have its spherical center of imponderable space.

There is its space center, also, for the reason that there are forces on it to reduce or sublime it to space. If, upon matter the densest known, there be the weight of this earth, or even a column of this earth's crust in appreciable velocity, there were injected into it that explosive force which would sublime it instantly to heat and light if it were in a condition to so expand. Upon the earth's center, are its crust and atmosphere, and meteorities, if any, and its moon. The weight of the moon upon the earth would crush a steel column many miles in diameter. These weights are focused on the center of the earth, and together, are sufficient to sublime to potential space the earth's center if originally it were matter.

Nor upon the earth's center were there this pressure only, but there were that of the earth's system itself upon the prolate spheroid of force by which the earth is held at its graduated distance from the sun. The earth is not at its distance from the sun of any volition of its own, simply, but of a physical force of some sort as real as were the column of steel from the sun to the earth sufficient to sustain it. This is obvious of dynamic heat radiations of the sun refracted and focused to the earth's center by that atmospheric lens of static being intermediate the earth and sun, and this, touching the axis of the earth, resting on this, gives to the center of the earth a force of itself sufficient to sublime it to space, if originally it were matter, and that matter, platinum.

And, without this, there is in the dynamic radiations of the earth's heat from its own center the static resistances to give them force sufficient to sublime them. Each ray were the charge of powder to propel its ball to which the static ball must make resistance; and without reverberated force from objects stricken by these balls, there were, and the start of these balls, and at every instant of their propulsion, the reacting force to raise the earth's center to the heat at which no form of matter could exist.

There are, also, platanic vapors from the earth's center possible but of such heat upon it. There is no platinum found at the earth's surface but as it would seem to have come to where it is in vapor, and from below, and through fissures in the archean rock which does not contain it. And, without this, there is evidence that at the earth's center there is a heat inconsistent with any form of matter. From the surface of the earth the pressure, and with it, the heat, increases at the rate of near one degree to every fifty feet which, at the depth of but 2,000 miles, will give a heat of 200,000 deg. F., more than enough to sublime to heat the densest matter.

And there is reason, also, that there is there such heat, in that such heat were at the center of the force elements of this earth's system in reaction. And in that such heat were necessary to propel this earth to revolution on its axis; and to sustain its crust, and atmosphere, and meteorites, and moon; and to produce the matters in its atmosphere; and to force these into water, and water into ammonias compound, and ammonias into plants and plants into animals and animals into man.

It is certain that there is process in being at this earth's surface, and that, continuous and dependent upon the earth as its fulcrum. That man is dependent upon the animal, and the animal upon the plant, and the plant upon the compounds and the compounds upon the elements of matter, and the elements upon the forces, in reaction to produce them, themselves dependent mediately or immediately upon the axis of the earth. If not so supported, each such being in succession is self-supported, and is consequence, therefore, without cause, other than that anthropomorphic of man's imagination creating it *de novo* and at every instance of its existence and activity. So that in the earth and every thing of force, or matter, on, or in, the earth, there are phenomena, each the miracle, if it be not from the hypothesis of a dynamic cause in heat from the earth's center; which heat were consistent only with an imponderable reality as space to a definite and measurable distance from that center.

And, that there is such space, is indicated in the movements of the magnet. This dips as it goes towards the earth's poles North and South, at or near the which it becomes vertical as though it would, if it could, go through it by its axis. This were reasonable if about a space center of the earth there be a crust mainly as a belt of metallic matter in which there were a current of electrical reactions as there would be in the metallic matters of the earth's crust, the deepest at the earth's equator. It is not probable that the earth's crust is in a belt merely about the earth's

equator, or that there is not this crust, also, about the poles; but it is probable that this crust, is thinner at the poles than at the equator, and that the platanic stratum of its crust is virtually in a belt about the earth, and produced by electrical reactions on the earth's axis. It is the conductor of a circular electric current about the earth, which is to the magnet, at the earth's surface above it, as were an electrical conductor with respect to which the magnet moves as about the wire in which there is the current. And the tendency on the magnet to penetrate the earth by its axis is the same as that in the magnet to pass around the electrical conductor. All of which phenomena were consistent only with a spherical space center to the earth with no single fact, to show there is not, or to raise the doubt of its existence.

## CHAPTER XXXVIII.

### About the Earth's Center of Space There is a Stratum of Platano-metallic Matter.

There is a crust of matter about the earth's center of space; and this in strata, of which the first and densest is in molecules of a metal, the typical of which is the metal platinum. From the reactions of the elements of force in the earth's medium upon its axis, there were a sphere of force invisible in space, and about that a crust of matter. But this matter will have been produced at several stages in the process of that matter crust. The original force at the earth's axis will not have been less than 40,000 deg. F., and 10,000 lbs. pressure; in circumscription of which there will have been a stratum of matter to absorb and hold in reserve the one-half of that force, and this matter will have been the densest and most obstinate possible, which is that of the platanic group.

And there is, also, this platanic stratum, first about the earth, in that this were necessary to arrest the rays of heat in radiations from the earth's axis; and that such stratum were necessary to retain the earth's forces; and, as the boiler, to retain its steam to the uses of the engine. And, admitting the platanic stratum, there will have been formed upon that the archean rock stratum, and this of radiated forces rising from the surface of the platanic stratum. And without that stratum, as boiler, there were not the steam to propel the meeting of this archean stratum. And there is this stratum, also, in that it were possible of the earth's

forces reacting on its axis; and in that the matters of the archean stratum possible, but of reactions from such floor, and in that, without this stratum, the earth were not of the weight observed.

It is seen that the earth's surface crust is, with exception of the remains of organic matters, of the archean rock, or the detrita of that rock. That rock matter is but two and one-half times the weight of water, and if this matter were continued to the very center of the earth, that earth would weigh but two and one-half times as much as the water, while it is found to weigh five and one-half times as much. There must then be from below the rock and extended down one hundred miles or more, a matter substance of much greater weight.

If, from the interior surface of the archean rock stratum, there be the metal iron, even, extending to the center of the earth's surface, it would give the necessary weight. But there can be no metal so extending. since about the earth's center there is a sphere of space. That denser matter necessary, therefore, not extending to the earth's center, must be heavier than iron. Also, this will have been formed first about the axis of the earth, and will have been the densest possible, which densest possible is the platanic group, and in that they are the densest known.

And there is platanic matter below the archean rock, in that it appears at the earth's surface only in vapor, and through fissures in the archean rock; and in that from the increase of heat with distance down from the earth's surface and at a distance not greater than the probable depth of the archean stratum, there is a heat to sublime that metal to the state of vapor in which at the earth's surface it appears.

There is that stratum, also, in that there is platanic matter not possible at any other point in the earth's process of formation; and which has no other source conceivable. And that stratum, in that this will have been deepest in the plane of the earth's equator; and in the form of an equatorial belt about the axis. And in the belt there will have been an electric current around which the magnet would move as it does about the wire in which there is the current of electrical reactions. This tends to move around and around such wire with its North pole to the right, and such is the movement of the magnet about the earth. This dips as it approaches the poles, North or South, at which it becomes vertical with an evident tendency to pass through the earth by its axis, as it would if around the earth's axis there were such belt.

And there is such stratum in analogy to the sun which has such stratum. There is the reason that sun and earth, both of

forces in space and matter and in evolution of respective media are both natural organisms, and analogous and homologous. That the parts of the one are in correspondence with the other and there being the platanic stratum to the sun, there is this, also to the earth.

And there is this, also, in analogy to the organic embryo, plant or animal, to which there is the cell to its nucleus and peripherential parts, the limiting membrane of each nucleus being the same, analogously, as are the platanic strata to the centers of the sun and earth.

## CHAPTER XXXIX.

### And About This an Archean Rock Stratum.

If it be tolerably clear from this that there is about the center of the earth in space a hollow spherical stratum of platanic and platano-metallic matter, it is, or can be, made quite clear that upon this there is a stratum of archean rocks.

There is a rock continuously about the earth's surface, and constituting, to a considerable depth, the matter of the earth. This rock is of the rocky matters feldspar and mica, in granules, embedded in a matrix of quartz; and it has been disintegrated and eroded by the fall of water on it; and its detrita have been transported and deposited by water in geological formations, at many places to the depth of many miles, and these, made under different conditions and at successive periods, are observed from the primordial to the post-pliocene inclusive.

These formations, exclusive of the remains of organic beings, plant and animal, sparsely seen, consist but of the detrita of the original rock, or of the detrita of such detrita having first taken a different form; and this rock, not so covered by formations of its own detrita, appears at different places as a native granite, or as a granite, metamorphosed, merely, by a secondary force.

There is the granite at places when it would seem to have completed its existence without force in the form of gneiss—a rock of the same elements as granite, but stratified as granite is not. And at places again it appears, as, after having completed the process under the possible conditions then existing, it had been subject to a supervening force, different in directions from that of its existence, through which its elements and constituents are in other than their original relations to each other.

This rock, so furnishing material for the geological formations

of the earth, furnishes the motives for its transformations; its elements are (non-metallic) oxygen (and the metals), potassium, sodium, magnesia, calcium, aluminum and iron; the oxygen, the negative or acid element, and potassium and the other metals, in the order of their affinities, the positive or basic. And oxygen forming oxides with each other of these metals in succesion, there are, of these, basic and acid compounds, and the potassium, sodium, magnesium and calcium oxides basic relatively, to the silicium, aluminum and iron oxides, relatively, acid.

Of these, potassium, silicium, and aluminum oxides, from feldspar; and potassium, calcium, silicium, aluminum and iron oxides, mica, which, together in a matrix of silicic oxide, become the granite rock, of which from disintegrations and erosions simply are the materials of geological formations, and the materials which under secondary forces of their own are transformed into other rocks.

Hydrated silicic oxide forms, not only with feldspar and mica together, but with these apart, and with the separate oxide elements of these, in composition of rocks in great variety. So, also, do heated aluminum oxide and calcium, magnesium, sodium and potassium oxides unite with acid oxides, from the organic period shortly to be noticed, to form the chalks, limestones, marbles, dolomites, and the soluble salts of sodium and potassium which enter with the remains of animals and plants into the geological formations of granitic detrita.

It is thus apparent that, assuming this earth to be of the invo-evolutions of the elements of force into the spaces and matters possible about its axis, of these in reaction on it, the first such product, after that of the platanic stratum about the earth's center, was the granite rock, which, from such, its source, we term archean; in which, were the first terrestrial elements of matter; and in which, therefore, were oxygen, potassium, sodium, magnesium, calcium, silicium, aluminum and iron.

It is probable that these are composite, that potassium is but sodium doubled, or sodium but potassium halved. And that calcium is so related to magnesium, and iron so to aluminum; or that iron is in the union of silicium and aluminum, as in organic matter, later, phosphorus may be but of nitrogen and carbon; and that then the only archean elements of this earth's matter being were oxygen the minus, and potassium, silicium and aluminum the plus. And it is probable, therefore, that of these four elements of matter, in transformations of the elements of force, was the archean earth made; as by the analogous elements, oxygen, hydrogen, carbon and nitrogen, the organic earth was made.

It will be seen that there have been two periods of this earth's progress; the one, that in which feldspar and mica were formed into the archean rock about the earth, and thence into the substance of the earth's crust; and the other, that in which ammonias compound were formed into plants and animals, and thence into a vital dermal envelope about the earth. And the one, of the elements oxygen, potassium, silicium, aluminum, and the other, oxygen hydrogen, carbon and nitrogen; and oxygen the same, that hydrogen is analogous to potassium—both univalent basic radicals—and carbon to silicium, both quadravalent basic radicals, and nitrogen to aluminum, both muttivalent acids radicals. And that they differ but as formations of analogous matters will have differed under conditions different; the archean element having formed under the forces of a heat of more than 6,000 deg. F., and a pressure of more than 1,200 pounds to the inch, and the organic under a heat of less than 212 deg. F., and a pressure of less than 60 pounds to the inch.

Such the archean rock stratum, if there be such in succession to that of platano-metallic matter, first about the earth; and there is such stratum. There is the granite rock of feldspar, mica and quartz of such elements continuously about the earth, and next after the platanic stratum in the earth's process of its force, reality, into the matter realities of its possible.

It is continuously about the earth. At every place about this earth, where there is not exhibited the remains of this rock in geological formations, there is exposed the rock itself. At no place has the rock been worn through to what other may be below it; nor at the depth of its deepest erosion is the rock different from that seen at the earth's surface as attested by its remains in their earlier formations. Nor is there reason to believe that under formations of the greatest depth there is not still the underlying rock.

In these formations there are the remains of animals and plants and also with these the metals, and the oxides of metals not original in the rock. There is reason that the rock formed under great force; that it began at a force of not less than 20,000 deg. F., in heat, and 5,000 pounds of pressure, and that it ended in a force of not less than 5,000 deg. F. in heat, and 1,200 pounds in pressure. That under this heat, all the metals formed, save gold, perhaps, were in vapor to subside but upon the surface; that in cooling there, all but gold, therefore, were not in the rock, but on it where its disintegrations began, and that the metals formed in the geological deposits are not there as part of that rock, but as parts of themselves disintegrated, eroded and de-

posited, as was the rock in geological formations, which metals, not appearing in the rock as seen and extracted from the formations of its remains with which they have been mixed, there is left the rock not only in certainty, but in perfect integrity of constitution about the earth.

So continuously about the earth and as a stratum of the earth it is also that first after the platanic stratum. It was not before it in that it is visible at the earth's surface and the platanic is not—but as it appears in vapor through fissures in the earth's archean crust—and it was after platinum, in that platinum was the first matter possible, sufficient to arrest the earth's central heat in radiations, as the archean rock of metallic oxides could not, and as no element of that rock could. The oxygen could not, in that it is, itself, the representative in matter of thermal elements in force; and the sodium, magnesium, calcium and potassium could not, in that, separately, they are so susceptible of heat that they burn from contact with oxygen; nor could silicium, aluminum, or iron, in that neither could withstand, in the liquid or solid form, such heat as must have existed at the beginning of the archean time. Nor, if they could, were there the conditions of their productions so about the earth's centers to have formed such crust.

The platanic molecules will have formed about the earth's center as is the light about the heat, and magnetism about electricity; and as is the static rim of the wheel of dynamic forces in reaction to produce it. And it must have been produced, to the density and obstinacy it exhibits, as the conditions possible upon which it could sustain itself, as such rim about such wheel. It has the density of twenty-one in terms of water with a resistance unequaled to the rays of heat, and with inherent affinities, therefore, the greatest possible through which to form and sustain a cordon of matter around that mode of space.

These were conditions with which no archean rock element could comply. But these could—each and all—comply with the conditions possible and supposable, immediately exterior to the platanic stratum. At the surface of this there will have been heat radiations which will have been met immediately by a static force of not less than 5,000 pounds to the inch. This were a refractive medium and a lens to focus such rays of heat emerging on points immediately adjacent such platanic stratum, producing of them, thus, an atmosphere of such focal points. Each of these were as is the center of the earth to the radiations from the sun's surface focused on it; about each such point were the axis of such forces focused in reaction as is the earth's center, and about

each of these were a matter crust as there is about the earth's center, and this of the elements analogous to those of potassium, calcium, silicium, aluminum and iron about oxygen in the archean earth, and to hydrogen, carbon, sulphur and phosphorus about oxygen in the organic. But as there are not these archean elements of matter, but in the archean rock supposable exterior to the platanic stratum; or organic elements, but in organic matter obviously posterior to the archean stratum, so, by analogy, there were not the force elements in such physical force system, as that, from heat radiations at the surface of the platanic stratum, those were in an atmosphere about it But if to the sun and earth there be strata in which are oxygen, potassium, aluminum, calcium and iron in quartz, micas and feldspars, so in these epitomes of the earth in the earth's archean atmosphere, there can have been these. And there were these in that there is this rock which can have so formed but in the earth's archean atmosphere.

And there being such rock, it can have been formed but as a second stratum of this earth's crust, at the surface of which, but for the water on it in its original state, or in deposits of its detrita, it now lies. Not the first stratum, for reasons stated, it is on the first, no other intervening detrita appearing, or indicated in hypothesis or phenomena. And if there be a crust to the earth, as obviously there is, this rock must be a stratum of it.

And this stratum of the earth's crust is in analogy to that of the sun, which is now forming, and in analogy to that now forming on the outer planets.

There is reason given that there is now about the sun the formations of an archean stratum; and there is reason that the outer planets, Jupiter, Saturn, Uranus and Neptune, are in and about the formation of such archean stratum; and that Jupiter has completed it, to enter on the water stage, that Saturn is in it, and Uranus entering it, and Neptune about to enter. There is reason that the planetary process is the same, and for the sun and planets, and that the stages in which the sun and outer planets now are, are but that stage in which this earth was at the time next after its platanic stratum.

## CHAPTER XL

### And Upon This the Water Stratum.

Such the platanic and rock strata of the earth's crust, there is upon the last of these the water stratum.

There is not now a water stratum continuously about the earth. There are lands of unequal elevation and the heights of these are above the water level at the earth's surface, three-eighths of which, therefore, are now uncovered. But of the waters on the earth's surface, if that were level, there is enough to cover it to the depth of a mile or more, without regard to that which is under the earth's surface in bodies detected by artesian wells, and that absorbed by chemical and geological formations, and by life, and expanded in animals and plants. And such the water now existing, they were sufficient for a stratum of the earth's crust if it were level, and there is reason to believe it was.

There was at the close of the archean period, when, from diminished force, metallic oxides ceased to form into archean rocks, a surface nearly level to the earth in metals and metallic oxide matters. This earth will have been in form of an oblate spheroid in revolution on its axis, every part of whose surface will have been at a graduated distance from its axis, with but longitudinal ridges highest at the equator. Revolving under an atmospheric pressure of nearly 1,000 pounds to the inch, with an equatorial velocity of 1,000 miles an hour, and this atmospheric pressure elastic, it is probable there were such longitudinal ridges; but that these were not high enough to be out of the water falling on them, which must have been vastly more abundant than it is now.

There was then in radiation from the earth's incandescent surface a heat of nearly 5,000 deg. F., in resistance of which, from without, or in its own inertia, there will have been a pressure of little less than 1,200 pounds to the inch. These forces, in an atmosphere immediately about the earth, will have been the one, heat, and the other, light, and the one, minus, and the other plus, of electricity, and the one electricity, and the other magnetism in moments. These were molecular spheroids, and of these, in reactions on their axis, the axis of each will have been oxygen, and the rim, hydrogen. And these will have been as an atmosphere of water vapor about the earth, to form and fall as water liquid on the earth when so cooled, as from absorption of its heat by water, it were able to receive it. That fall of

water must have been as greater than the fall of water now, as were the heat of 5,000 deg. F., to that of 60 deg. F., at the earth's surface now; and the volume of water on the earth must have been as greater than it is now, upon the earth. And there is geological record of the fact that about the primordial earth there was an unbroken continuity of water.

This was a stratum of the earth's crust as truly as was that of the archean rock preceding it. It covered the rock as completely as did that, the platanic stratum preceding it. It was from the same source and differing from the rock stratum as that from the platanic, and from the rock stratum, but as the conditions differed. When the rock stratum began to form, from an atmosphere of metallic oxides about the platanic earth, there was a force in heat probably of 20,000 deg. F., with a corresponding pressure.

When the water stratum began to form from an atmosphere of hydrogens oxides about the archean earth, there was a force in heat probably of but 5,000 deg. F., with a corresponding pressure to arrest it. That arrest was by metals about oxygen, in the one case, and by hydrogen, about oxygen, in the other, and the archean rock was that reservoir of the earth's heat from 20,000 deg. F., to 5,000 deg. F., as that primordial ocean was of that from 5,000 deg. F., to 60 deg. F.

It is probable that the first metallic oxide was that of potassium, and the first non-metallic oxide that of hydrogen. Potassium is a monovalent basic radical, uniting in two atoms to one oxygen, as does hydrogen, which in atomic weight to potassium is as one to thirty-nine; a proportion somewhat the same as were the forces of the formations, respectively. And probable that by evo-involution of the potassium oxide, there are the oxides of silicium, aluminum, calcium and iron in feldspar and mica, as by evo-involution of hydrogen, there are the oxides of carbon, nitrogen, sulphur and phosphorus, in plants and animals.

It is probable, also, that for a long period after the first formations of potassium oxides, there was an atmosphere of these atoms about the platanic earth, as for a long time after the first formation of hydrogens oxide there was an atmosphere of these atoms about the archean earth. There are now in the earth's atmosphere, gaseous oxygen and nitrogen, in proportions of one to four, with percentages of ammonia and carbon oxide. But it is probable that when hydrogens oxide began to form into an atmosphere about the earth, and for a long time after, and until the waters possible had formed and fallen, there was in that atmosphere but the oxides of hydrogen, and it is probable, for a

period at least, there was a like atmosphere of potassium oxides about the platanic earth, and that the just analogy is not between water and the archean rock stratum, but between water as the first of the earth's organic matters, and potassium oxide the first of its archean.

It is probable that this earth is in a process of nature not yet complete; and that this is in stages, the first that of platanic stratum, and the next that of its archean rock stratum, consisting in the organisms plant and animal possible, in evo-involution continued of hydrogens oxide, as is the archean rock stratum in the organisms feldspar and mica possible, in evo-involution continued, of potassium oxide. Between these stages there are analogies. Oxygen, the same in both, hydrogen in the organic is analogous to potassium in the archean, and carbon analogous to silicium, and nitrogen to aluminum, and sulphur to calcium, and phosphorus to iron. And the plant, of oxygen, hydrogen, carbon and nitrogen in water ammonia and carbonic oxides, is analogous to feldspar, of oxygen potassium, silicium and aluminum oxides; and the animal, of oxygen, hydrogen, carbon, nitrogen, sulphur and phosphorus in sulphosphammonias to mica of oxygen, potassium, silicium, aluminum, calcium and iron in calcioferrates of aluminum silicates.

But, without such analogies, there was the water stratum, and this more indisputably a stratum of the earth's crust; and it is from the same source as the archean stratum. And as this archean stratum were the miracle of consequence without cause, if it be not consequence of cause in force reacting on the earth's center; and if it be not in invo-evolution of these forces radiating from the platanic stratum, so were this. In this way only were there the static potassiums rim about the dynamic oxygen axle; and of this, as a solar axis, there were planetary evo-involutions into the oxides of other archean elements.

And the water stratum were such miracle if it be not consequence of the same cause through forces radiating from the earth's archean stratum, and whether water be capable of evo-involution or not, of that are the seas which would overspread the earth if it were level, and which did overspread the earth at, or after, the archean period, and which are in continuation of the matter disk of the earth about its center of spaces in reaction to produce it. And this disk in strata of such matter possible, water is a liquid stratum of the earth's crust.

## CHAPTER XLI.

### And About This the Atmospheric Stratum.

There is thus, in strata of solid and liquid matters, a crust about the earth's center of included space, and about these matters there is an atmosphere of gaseous matters. There is about the earth's surface, and to the depth in the plane of its equator of several hundred miles, an atmosphere of gaseous matters; this, though continuously about the earth, is deepest in the plane of its equator, and mainly consists of nitrogen and oxygen in the proportions of four to one, with which, however near the earth's surface, there are small percentages of gaseous waters, ammonias and carbonic oxides.

And this is a stratum of the earth's crust. Its source is the same as that of the other strata. Of the finite forces in the earth's medium, originally nebulous, reacting on their axis of coincidence, there was a force in heat from that axis of perhaps 40,000 deg. F., and in pressure to resist it of 10,000 pounds to the inch. It is probable that this pressure at the distance of 3,000 miles or more from that axis, took the form of platano-metallic matter, absorbing or neutralizing that to 20,000 deg. F. of heat and 5,000 pounds of pressure; and that, at the exterior surface of the platanic stratum, there was 20,000 deg. F. of heat and 5,000 pounds of pressure; that this pressure took the form of metallic oxides in the archean rocks, absorbing and neutralizing thus such force as was available, until, at its surface, when it ceased to form, there was a heat but of 5,000 deg. F., and a pressure of but 1,200 pounds to the inch, which pressure took the form of water absorbing and neutralizing thus the force remaining down to 212 deg. F. of heat and 50 pounds of pressure, when the force available for water was exhausted, and the water became liquid.

But there was still in radiation from the earth a force of 212 deg. F., resisted by a pressure of 50 pounds to the inch; this was expressed in the elements oxygen and nitrogen, oxygen the energy and nitrogen the inertia, and oxygen the prolate and nitrogen the oblate element of that proloblate spheroid of the evo-involution of which there are compounds water, ammonia and carbonic oxide, of which there is the organic matter disks in evo-involution of which there are the plants, in evo-involutions of which there are the animals possible, to absorb and neutralize this force to its present average of 60 deg. F. and 15 pounds to the inch. The source, therefore, of the earth's atmosphere is the

same as that of the water and archean rock and platanic strata of the earth's crust.

And, the sources the same, there processes were analogous. After the platanic stratum there was an atmosphere of potassium oxide in evo-involutions of which there were the oxides of silicium, aluminum the one, analogous to carbon, and the other, to nitrogen oxide in evo-involution of which there was the rocky matter feldspar, in evo-involution of which there was the rocky matter, mica.

And, after the archean stratum, there was an atmosphere of water vapors in evo-involutions of which there were carbons and nitrogens oxide into the organic disk, in evo-involution of which, there is the plant, in evo-involutions of which, there is the animal. And, the sources the same, and the processes analogous, the platanic stratum was the possible at its time and place, and archean rock at its time and place, and water at its time and place, and the atmosphere at its time and place.

## CHAPTER XLII.

### And About This the Orbits of the Meteorites and Moons.

The meteorite is not accepted as a planet of this earth; nor, in fact, are their phenomena conclusive of its existence as a planet. Meteorites appear in the earth's atmosphere and under conditions to suggest that they are of attenuated matters invisible in orbits with the planets about the sun.

But there is nothing to show conclusively that there are not meteorites as bodies of solid matter in orbits about the earth, and between the earth and moon. There is much to suggest that about this earth originally, as now, about the outer planets, Jupiter and Saturn, there were more than one moon, and that these have been absorbed by the earth as the sun would seem to be absorbing the planet Mercury, and possibly a nearer planet, Vulcan. And if these shall not have been absorbed entirely, but shall have been reduced considerably, they will have become invisible while yet in their orbits about the earth. Nor is it clear that in that space between the earth and moon there shall not have been invisible media formed into invisible bodies which, so formed, will have been in orbits about the earth, and which, opaque from loss of heat, may now be invisible in such orbits.

But, however it be with these, there is, at least, the moon in

its orbit about the earth. It is possible that the moon may be the one of four moons about the earth. It is probable there were belts of nebulous matter about the earth, analogous to those about the sun, from which have come its planets; and that these broke into quadrants forming into orbs to move in their orbits about the earth. And it is possible that these had belts of nebulous matters about them, breaking into quadrants, forming into orbs in their orbits about the moon as the moon about the earth, and the earth about the sun.

It is probable that the processes of the earth, sun and moon are analogous; that each is from its nebulous condition in evo-involution, and that the resemblance is not now obvious for the reason that they are at different stages of their being. It is probable that the sun is stationary, that there is heat from its surface to sustain the pressure of its planets, and pressure in its planets to sustain its heat, and that the sun has been, and will be, indefinitely, in the same relation to its planets.

But it is probable that the planets are in more rapid process, that the inner planets are now about their organic stage, and the outer about their archean stage, and that as the inner planets are absorbed by the sun, the outer will approach to take their places. But that while the planets are in more rapid process to their results, the moons are in as much more rapid process, and that while other moons of the earth have disappeared, this moon is disappearing in the loss of its central heat. And it is probable that there is not now an atmosphere to the moon for the reason only that its waters have been frozen, and that we see upon the surface of the moon but a dreary continuity of ice.

But, while such are the probabilities, the fact of the moon's relation to this earth, as any one of its anatomical elements, does not depend upon this truth. Whether the moon shall have been originally with others, or alone about this earth, it is certain that it is now indissolubly related to the earth. That both of the same essential reality in space and matter, they are now in correspondence, and that the earth in its operations produces the force to produce and sustain the moon as the moon in its pressure on the earth contributes to that force of the earth to sustain itself.

The rational theory of real life in nature is that of the bubble, the film of which, contracting, produces the forces to distend it. This applied to the sun, the film is in the sun's crust and atmosphere contracting on its center of space, the escapes from which, in radiations, are taken in the planets, asteroids and

comets as reservoirs to reinforce the actions of the sun's crust and atmosphere. And this, applied to the earth, the earth's crust and atmosphere, are the film contracting on its center of space to produce the central forces to sustain them in activities, the escapes of which in radiations—more abundant once than they are now—were taken up by moons as reservoirs, and which now have been reabsorbed, to an extent, in production of matters on the earth. And this applied to moons, the crusts and atmospheres of these, were the films which contracting on their centers produced the forces to expand them, the escapes of which were reserved in meteorites about the moons, as moons about the planets, and as planets about the sun.

It is quite certain that the solar system was from an original nebulous medium of spaces and matters reacting; in results of which there are the sun with its crust and atmosphere, and the planets, in their order, with their crusts and atmospheres. And that the planets were each from one such nebulous medium of radiations from the sun, in result of which reactions, there were its moons possible, and that the moons were each from such medium of emanations from the planets, in results of which there were its satellites, if, under the conditions, they shall have been necessary to hold the excess of energy incident upon its center.

This theory, in diagram, it is difficult to see; in that the conscience of man—his organ of perception—is identified with space, and cause, and can see matter but not space, and consequence but not cause. And though he may thus see how the matter film of this bubble existing and contracting on its included space, also existing, could force that space into its activities in reactions with itself, he cannot see how the space can produce the matter, or the matter the space, or the air the film, or the film the air.

But to every rational operation we must take, by hypothesis, this capacity of reciprocal reproduction in cause and consequence, in that we must assume, as the bases of all being, real or ideal, that there is cause to consequence and consequence to cause, and, reasoning on this hypothesis, we must conclude that of space there is matter, and of matter space, as, of every mathematical proposition, we accept the conclusion from premise, and the premise from conclusion.

And, such the meteorites and moons, it is certain that if there be not meteorites about the earth or moon, there is, at least, the moon in its orbit about the earth, and that it is there as an anatomical element of the earth's nature. And that of these elements—its center and platanic stratum of its crust and the

archean rock stratum, and its water stratum and its atmosphere, and its moon in its orbit—there is the nature of the earth.

It is clear that, in these, there is the nature of the earth, as that, in the elements of the sun, there is the nature of the sun. And, clear that the sun is of the nature of the universe, it is as clear that the earth is of the nature of the universe, and in this that there is a nature of the universe, of which the star and sun and planet and moon and meteorities are anatomical elements.

There are meteorities, whether as satellites about the earth, or moon, or not. They appear in the atmosphere of this earth and as matters under force, and as such matters they are of the nature of the universe, and as such are anatomical elements of that nature as truly as are the moons, or planets, or suns, or stars.

But the office of the meteorite in the economy of this earth's nature is not now important, and it is enough to find that, of the earth, there are the elements center, crust, in strata, metal, rock, water, atmosphere and moon, and that these are natures of life in nature, to find that the earth itself is a nature, and, of the universal reality in life.

And, thus apparent that of the universal medium of the reality, there is the universe of nature by its evo-involution into stars and suns and planets, and that of a medium of that energy in physiological relations to the universe there is the solar nature, by evo-involution into its planets, asteroids and comets, and the moons about planets, and meteorites about moons, and that of a medium of energy in physiological relations to the solar system there has been a process by evo-involution into this earth, through successive strata of its crust and its atmosphere and moon and meteorities, possibly; it is in reason that the earth is a nature of reality in life, and that thus there are the universe, star, sun and earth of nature. And as there is nature but of the reality, and as there is reality if there be that which could not be without reality, and as such were nature, or the nature of the universe, star, sun, or earth, and as there is the one of these it will appear, perhaps, that there is reality without the further showing that of nature also are the plant, animal and man at this earth's surface. But of the truth of a nature of reality the proof that these. also, are of nature, were even more conclusive, and as the proof that these are also of nature is easy and abundant, I will to this protract the argument; though that protraction may seem gratuitous, since it has never been asserted, as far as I have seen, that either of these is not of nature.

But it has been required, and by men of science, that, to the every species of plant, or animal, there be a special creative act,

inconsistent with the nature of reality in life, the only nature possible; and, as man's theology claims for him the instant administration of a creative power not in the nature of such reality consisting in being cause to being consequence, and being consequence to being cause, it is not quite gratuitous to show that not of contingent power, but of power vested in the unviersal reality of the uttered word of God in life, there are plant, animal and man. And, this, nature, that the plant, animal and man are also of nature as is the earth itself.

## CHAPTER XLIII.

### There is Also the Plant; and This of Nature.

Such the earth in its crust of matters about its center of space, with its atmosphere of force about its crust and its meteorites and moon about its atmosphere, it is seen that there is, about its crust and between its crust and atmosphere, a limiting membrane of matters termed organic, and this in two orders of beings, the one termed plant and the other animal, of which the plant is sessile at the earth's surface and apparently in absorption of the forces to its support by its roots from the earth and by its foliage from the air; and of which the animal is locomotive, and in procurement of the forces for its support by its prehensile organs from the plant by which they have been produced and stored.

Of these the plant is in orders, cryptogamic, phanerogamic, endogenous and exogenous. And as the existence of that we term the plant is obvious, the only question raised by the proposition that there is this of nature is, whether it exists by appropriation of the earth's forces physiological? And it does so exist. This plant, as I have said, is in departments cryptogamic, phanerogamic, endogenous and exogenous, and each department is in orders. And that of the cryptogamic in orders alga, fungus, lichen, moss, equisitum and fern. And that of the endogenous phanerogam in orders of which the typical is the ærial palm; and that of the exogenous phanerogam, the typical of which are the gymospermous and angeospermous forest trees.

It would seem, also, that these departments and orders came at successive periods to exist. And that the first order of the cryptogamic department to appear was the alga, and this in the waters of the silurian seas, then, continuously, to a considerable depth, about the comparatively level surface of the archean earth. And that the first of these was unicellular, consisting in

a single physiological unit of that plant being there is from the union in reactions of carbonic oxide and ammonia as polar beings, acid and base, through intermediate water neutral to produce it; that this, as such being physiological, was capable of teleologic evo-involution to the conditions of existence possible, and that thence there were the multicellular algae in such waters, still contiuously about the earth.

But it would seem that the surface of the archean earth did not continue so comparatively level; and that lands began to appear above the surface of the waters; and that from these began to spring a new order of such multicellular beings physiological, termed fungi, and differing from the algae but as they must in becoming aerial from the other sub-aqueous.

And that from the fungus there came the lichen, from taking basic force physiological from the air to its acids from the soil. And that from this, by a further variation to that end, there came the moss, and then the equisetum, and then the fern, in which there are roots to acid forces from the earth, and leaves for basic forces from the air, to react at the junction of roots and leaves into the plant of root and branches possible, but without an efficient method of discontinuous reproduction.

Of continuous reproduction, the fern was as capable, perhaps, as is any higher plant; but in it there was no efficient means to the continuation of its existence at a new time and place. In coming to its maturity, it matured spores, which, under exceptionally favorable conditions, could root and grow at another place and time. But this was insufficient, from its want of the fully developed staminate or male principle of the plant. In force physiological there are the principles, minus and plus; and in the matter, the oxygenic and metallic, or hydrogenic; and in the plant, the staminate and pistillate; and in the animal, the male and female principles, all the kindred beings different, of which, from their affinities for each other simply, there are these respective beings physiological. And in the seed of the phanerogamic plant, the staminate principle is as fully developed as is the pistillate. But in the spore of the fern, or any cryptogamic plant, it is not so developed. And the spore, therefore, as is every cryptogamic plant itself, is the hermaphrodite in which Aphrodite secretes her Hermes. But in the seed of the phanerogamic plant these principles are equally developed and placed in relation to each other, and often with the store of food to sustain them through their initial activities in starting a new nature of a new life.

Of such more efficient method of discontinuous reproduction there was that department of the phanerogamic plant of which the type is in the palm. This is an order of plant beings physiological in which, as in the fern, the staminate principle is represented in roots and the pistillate in leaves, and which differs from the fern in producing with its leaves the seed instead of the spore through which to begin a new existence.

And of such more efficient method, also, there was that of which the forest pines and oaks are most conspicuous; and this, differing from that of the palm, *first* in its seed of two lobes, while in that of the palm there is but one, and, *next*, in that its center of reaction, between its parts in production of the plant, is stationary, while that of the palm is locomotive; and in that, while the palm grows from the point of the stem at which it starts, by successive generations, each a successive segment of its extending stem, the pine or oak grows from the point at which it starts at the surface of the soil, and by successive generations, but each, not a segment in extension of the stem, but a concentric layer in enlargement of the stem. Of this order the stem and roots are formed of successive layers of wood about their axes, each starting in its stem up and its roots down from its stationary root crown, and representing the products of root and foliage forces reacting on the root crown, there is between wood and bark a liquid substance termed the cambium layer, from which are deposited periodically layers of wood and bark. So that of the endogenous plant the stem represents the process of its roots, and of the exogenous that of its branches.

But while such are the differentiations of the plant cryptogamic, and phanerogamic, and endogenous, and exogenous respectively, there is reason that it is in teleologic evo-involution of that original being physiological, first apparent as an unicellular alga first apparent in the silurian seas.

And, such the plant, there is this, and this existing of the earth's forces physiological, it is able to appropriate. There are such forces of the earth and these subject to appropriation. There are the earth's forces eccentric and concentric, of which are the earth's crust of matter and its atmosphere of force. And in the earth's crust there are metallic oxides with those of sulphur and phosphorus. And in the earth's atmosphere there are the oxides and nitrides of hydrogen and carbon. And those in the earth's crust are relatively acid and in representation of the earth's eccentric force. And those in its atmosphere are relatively basic and in representation of the earth's concentric force. And the plant, sessile at the earth's surface, is in the way of receiving the

earth's eccentric force through its roots, or analogous absorbents, from the soil, and the earth's concentric force through its bark and foliage from the air. And that it does receive such forces and transforms them to its tissues is, perhaps, indisputable. And that it does so is conclusive that there is the plant, and this a being physiological, and this of the physiological forces of the earth.

It is being physiological—the being possible of kindred beings different of their reciprocal affinities simply in reciprocal limitations of each other. And such is the cryptogamic plant, and such the phanerogamic, and such the endogenous, and such the exogenous. In this earth, and the every being of this earth, there are beings eccentric and concentric in such limitations of each other, and these, in the plant, are the one staminate and the other pistillate. And of the reactions of these beings is the every plant.

These beings in the plant are analogous to the male and female beings in the animal. And in the cryptogamic plant the male principle does not appear, and that plant, therefore, would seem to be the female hermaphrodite in fertilization of herself. But that the male principle, though not obvious even in the spore of this plant, does, in fact, exist, is in that its existence were the condition of either continuous or discontinuous reproduction of which every such plant is capable.

But in the phanerogamic plant it becomes conspicuous as the stamen to the pistil of the flower, as the sperm to the germ of the seed, and as the roots to the crown of the endogenous phanerogam, and as the root to the stem, and the stem to the foliage of the exogenous plant.

So, physiological from being the possible of such kindred beings different, the plant were physiological, also, from being in teleologic evo-involution. And that it is in such evolution, is in that the unicellular alga in the silurian seas is the original of the mullecillular alga and of other plants, and of that now seen in forests, and that it can have advanced from its original to its present state but by such evo-involution.

It is not contended that any one of the particular plants now in forests is the same, and by such process from any one of the unicellular algae originated in such seas, but, only, that the alga was the first form of the earth's forces physiological to appear in the plant being physiological; and that the being physiological to the plant, and not the plant itself, is that, which, by such process to the continuation and enlargement of its existence, now appears in forests.

Intended that of the earth's forces physiological, eccentric and concentric, and the one in heat and the other in cold, the one became oxygen and the other hydrogen in molecules of water, liquid form excess of hydrogenic, and vapors from excess of oxygenic, force, it is intended that every such water molecule is a being physiological of which the oxygenic is eccentric, and the hydrogenic concentric, and of which the oxygenic is in want and susceptive of more of the oxygenic; and that, so susceptive under the conditions of waters accumulating at the earth's surface, each of these elements of the water molecule at the surface of the water liquid, receives by induction, installments of its opposite, so wanted. And that of such installments there are in each such water molecule further physiological reactions resulting in a wheel of carbonic oxides and ammonias reacting in its revolving disk about its neutral axis in water. That this resultant being physiological, of such ammonias and carbonic oxides reacting through water, is an ammonium compound of ammonias compound acid and base. And that of these ammonias compound, the one oxygenic and the other hydrogenic, and the one acid and the other base, and the one eccentric and the other concentric, there is that being physiological which first appears as objects microscopic, which, in their enlargements through further such physiological reactions, become the unicellular alga, by further such enlargement, to become the fungus, to become the lichen, to become the moss, to become the equisitum, to become the fern, to become the endogenous palm, to become the exogenous oak.

This were teleologic evo-involution of the original plant being physiological, if there be such being. And as there is such being in that the every plant that is, or has been, were possible of such being, and were the miracle of consequence without cause if it be not such. And, as there is no such miracle, the plant is such being physiological, the further proof of which is in the fact that it so advances, through such telleologic evo-involution from its first appearance, to the plant possible.

Such were the plant hypothecated. And there is such plant; and this not only the being which, with a vague sense of its significance we term the plant, but the being which, in its appropriations of this earth's forces physiological to the being and enlargement of itself, is the plant, whether it be in infusions or in forests.

And this is of nature consisting in the teleologic evo-involution of being physiological. And there is the plant and this of nature; there is certainly the plant cryptogamic, phanerogamic, endogenous

and exogenous. And every plant of every order is but of the matter elements, oxygen, hydrogen, nitrogen and carbon; and these in the compounds water, ammonia and carbonic oxide; and these reacting into tissues intermediate, and varying, in such reactions, under conditions changing, into the tissues of beings successively more complex; and whether the first of these beings be the unicellular alga, and the next the fungus, and so on, by favorable variations to the plant possible; or whether the plant be sessile at the earth's surface in mediation of its eccentric and concentric forces; or its male element be occluded in the cryptogamic plant, or expressed in the phanerogamic; or whether the endogenous plant advances to its maturity through successive segments of its root-stock; or the exogenous from its root-crown by successive layers of wood about its ascending and descending axes, formed of its cambium layer between wood and bark, the fact remains that there is the plant, in such orders of such compounds of such elements of matter, of forces physiological such as are those of which is the earth's crust and its atmosphere, and possible of these.

And, the forces of the elements of the plant possible of the forces of the earth, and its elements possible of these forces, and its compounds possible of its elements, and its tissues possible of its compounds reacting, and the successive plants possible of variations under conditions changing in such reactions, the every plant and the kingdom of plants is possible of the earth's forces physiological in teleologic evo-involution; and this nature—is possible of nature; and, if not consequence of nature at the plant, that nature were cause without consequence, and the plant consequence without cause. Either were the miracle. And as we may not rationally accept the miracle, we must accept the plant, and the plant of nature. And that we do not also consciously accept the plant of nature is for the reason that we cannot consciously accept the being sensible from the being insensible, and this for the reason that we are unconscious of the existence of a being insensible.

Our conscience itself, space, and looking into matter, sees matter, but not space; and but infinitessimal parts of that universal being, of which matters are but the minute materializations; important to us for the reason, only, that in that form they come within the range of our perceptions. Seeing the earth, we do not see that indefinitely larger cosmic force physiological, from which it comes, and, seeing the orb of the earth, we do not see it much larger volume of special force physiological in its atmosphere. And seeing the plant, in its departments and orders in matters

coming successively to exist as it be possible, we do not see that these are materializations of the earth's atmospheric force physiological. But, unconscious of the existence of such invisible force, and necessarily, therefore, of its ability to become visible, we do not see in the plant the materialization consequent of that invisible cause; and have been forced to accept it as consequence of no existing cause; and to know of it, therefore, but that to be learned from scientific observations of its own phenomena.

But, without such consciousness, not possible, perhaps, in the present state of the human mind, itself reality, in force of its objective realities in matter, we must still believe that the plant is of that nature of which there is the earth; or rationally we are forced to see that the plant, as the earth, were consequence without cause if not of cause in the nature of this universe.

And the plant is of nature, also, for the reason that no one has ever said, thought, or believed that it is not. From our vague sense of nature, and not seeing that, in it there is the universal cause of universal consequence, we have required special causes for special consequences; and not only a special cause of the earth, plant and animal, but such cause of every species of animal or plant, and as such special cause were inconsistent with such universal cause in nature, vested in such agents to its execution, such demand would seem to imply, in the person making it, the belief that the plant or the species of plant is not of nature. But, interrogated, he replies that this is not his meaning, but only that while the plant is of nature, and of a cause in nature, that cause is not vested in the subjects possible to its excution, but is reserved, to be administered in installments of special cause to special beings, not possible of the general cause in beings antecedent. But the one thing certain is that there is no nature but of a general cause containing the particulars. And the admission that the plant is of nature, is the admission, however unintentional, that it and its species, are of the nature of the universe.

## CHAPTER XLIV.

### There Is the Animal, Also of Nature.

There is another order of beings at the earth's surface termed the animal, differing in many ways from the plant, but in no way such as to show that it is of other cause. It differs in that while the plant is of the four matter elements, oxygen, hydrogen,

nitrogen and carbon, the animal is of these and the sulphur and phosphorus in addition; and that while the plant is sessile the animal is locomotive, and while the plant takes it food physiological by its roots from the earth and by its foliage from the air, the animal takes its food from the plant.

The plant sessile at the surface of the earth, and taking heat from the earth, and cold from the air, of whose reaction in itself it lives, grows and reproduces, the animal moves upon the earth's surface to the procurement of the food possible, prepared for it by the plant, and stored in its foliage, or fruits.

And while the plant in its office of mediating physiological forces from the earth or air, is without organs of special sense for which it has no want, the animal, locomotive, in search of its food, is possessed of such organs for which it has occasion; and while the plant is without locomotive or prehensive organs the animal has these; and while the plant gives existence to discontinuous offspring through seed, the animal does so through ova; and while the plant casts its seed on chance to germinate it, the animal, except the lowest, broods and protects its ova and offspring; and while the plant and animal together form a limiting membrane of organic matter about the earth, and this a dermal appendage to the earth, the plant is endoderm and the animal ectoderm, of that appendage. And while, therefore, the plant and the animal together form such dermal appendage to the included earth, they are yet articulate and distinct and complimentary of each other throughout their respective circles of continuity; and while the plant is the inner circle receiving the earth's eccentric force to be manipulated and delivered to the uses of the animal, the animal is the outer circuit receiving the earth's concentric force to be manipulated and delivered to the uses of the plant through an intermediate being of their reactions. So, as does the minus of electricity receive its force from the earth to deliver to the plus, the plus receives its force from the air to deliver to the minus. And so, as that in a cross section of the two, the plant is the minus pole of that electro-magnetic being physiological, and the animal the plus, in production of an intermediate but invisible being physiological upon whose pulsative ministrations both exist.

This moral being intermediate these physical beings in reaction through it, is not visible to us as is not the neutral zone between the poles of the charged conductor insulated, or the magnet; and as is not the axis of the solar system, or life, or nature, or law, or government, which exists without our seeing it, as certainly as does the conductor, or the magnet, or as does

the plant or animal, or the state of man. And that it does exist is further evident in the fact that there were not the plant or animal without it.

It is not clear to common apprehension, perhaps, that there were not the plant without the animal; and it is true, perhaps, that there were uncellular plants in water; and that there might have been these upon land before there was the animal, and without the animal. But it is rationally demonstrable that the higher orders of plants could not have existed as they do now, without the complimentary animal, while it is obvious to any apprehension that there could not have been even the first ultra-microscopic animal without the plant. Not only is it impossible that there could have been the matter elements sulphur and phosphorus, or these without their production in the plant, but it is impossible that the animal, however miraculously existing, could have continued to exist without food prepared for it by the plant. And, besides this, it is seen that the plant takes carbonic oxide and delivers it as oxygen to the animal, while the animal takes oxygen and delivers it as carbonic oxide to the plant; and as carbonic oxide is the acid element and ammonia the basic element of the ammonias compound, amide and amine, reacting to produce the plant, and as the acid ammonia compound is in the representation of the earth's eccentric force, and the basic of its concentric force, it is seen that the plant and animal are to each other as these beings different of their reciprocal affinities simply in production of the plant; and that the plant is eccentric being physiological, and the animal concentric, and the plant minus, and the animal plus, and the plant electricity, and the animal magnetism, in moments playing about the axis of electrical reactions in the plant.

They are, also, in such relation to each other as are the stem and foliage of the exogenous plant. This consists of the root and stem, the one descending and the other rising from the root crown at the surface of the soil; and the one in conduction of eccentric, and the other of concentric, force, to the crown of the roots as their moral medium of administration. But about both root and stem there is a foliage of bark, as different from both as is the stem from the root, and in relation to these as is the stem to the root. And in relation to which foliage, therefore, the root and stem are as the stem to the root, so that while the stem and root are in representation of the earth's eccentric force the foliage is in representation of its concentric force, and while one is minus the other is plus, and the one electricity, the other is magnetism, and the one in representation of the earth's

center of space, and the other of its crust of matter, and as such beings physiological, they react, as I have said, at every point of their extended intercourse in production and administration of an intermediate finite being physiological, to the enlargement and advancement of both.

Such the relation of stem and foliage in the plant. Analogously, such is that of the plant and animal. And the plant of inherent cause and consequence, so is the animal; and the plant of nature, so is the animal; and the plant of being finite, so is the animal; and the plant a being physiological, so is the animal.

But, without this, the animal is rationally such being, in that it is of kindred beings different of their reciprocal affinities simply in reciprocal limitations of each other to the being intermediate of both, and, as such, it is in teleologic evo-involution.

It is of kindred beings different. Of such is the every animal radiate, annulate, articulate or vertebrate, living or dead. The lifeless body of every animal from the amoeboid rodiate to the two-footed and two-handed vertebrate, has, as has the plant or rock, its beings different, the one radiant from the earth and the other convergent from without, upon its center of gravity to sustain it in relation to the earth. These are functionaries of the earth and not of the lifeless animal itself, but they are not the less beings in it and different from each other in such otherwise inert body, in results of which the body is retained in its position until disturbed by other radiant or convergent force, or by some resolution of radiant and convergent forces. The body of liquid water within limits will so retain its fixed state until turned to ice by cold or to vapor by heat. And in neither of these events is the center of gravity diverted from its perpendicular to the earth's surface, but only removed to a lesser or a greater distance from it. And, though these be beings of the earth through which it changes the state of such subject being, these functionaries of the earth can so sustain or change the states of subject beings, but by means of the beings in the subjects themselves which, therefore, to that extent, are beings different.

But the more clearly are they beings different when, in the living animal, they become functionaries of the animal itself, in changing its equilibrium in relation to the center of the earth. This does the f and the rentile in crawling, and the beast in in There were no such moven parts of its being, the ( its exist-

ing perpendicular to the earth's surface, while with the other it seizes another perpendicular from which, as an acquired fulcrum, it deflects the first, or diverts itself from it. In every movement of every vertebrate animal, therefore, there are beings different and static and dynamic, and the one retaining its center of gravity in its original perpendicular to the earth's surface, until by the other it acquires another perpendicular in holding on to which it can let go the first.

And this true as to the movements of vertebrate animals is as true as to those of the articulates and the annulates, and as to even the sessile radiates, also. And while the coral polyp may not permanently change its center of gravity from within its chamber in the rock, with every movement of its tentacles it diverts it in the way in which the tentacle is extended. These beings, the office of the one of which is to retain its center of gravity, and of the other to change it, are beings different; and to their respective offices are opposite, reciprocal and complimentary; and if we knew of animals only that they move, we would know that they are of beings different and static and dynamic, at least, as the conditions of such movements. But we know, not only that they move physically in relation to their own centers in relation to the earth's center, but that they move physiologically about their individual centers of being such.

Supposing the animal to be a being physiological, in teleologic evo-involution of which the radiate order is first and the annulate of successive radiates next, and the articulate of sexioned annulates next, and the vertebrate, bilateral of two articulates united, next; we must suppose that the radiate moves physiologically along its axis of being perpendicular to the earth, and from the earth through such successive beings as it is itself to become annulate. And that the annulate moves physiologically through the sections of itself to special functions in continuation of its existence. And that the articulate moves physiologically to the reproduction of itself in pairs and in combining these into one bilateral vertebrate.

We are rationally bound to suppose, if we see only the radiate animal with a sense of its conditions, that it would so move physiologically to the animal possible, even if we did not see the animal itself at the several stages of its progress. But, seeing the radiate animal with every reason for believing it was first, and the annulate next, and the articulate next, we are bound to believe that to such successive changes of situation with respect to the earth's center, and its own, the animal has moved not only physically, but physiologically, and that while indi-

vidual animals have moved about their axis physiologically to the means of its individual existence, the animal, as a whole, has moved along its axis toward the means of its existence as such whole. And this, not physically through forces directly from the earth, but through forces of its own from the axis of its being, established in relation to the axis of the earth. These forces of its own were forces, and these beings physiological. And in fact, as in theory, of the animal, therefore, we are bound to suppose it advancing to its ends through beings physiological, and these kindred beings different of their reciprocal affinities simply in reaction with each other, if we did not see the beings themselves, in the course of their reactions.

But we see these beings, so far, at least, as we can see any moral being not physically visible, but in the beings physical which were miracles without them. The visible spark were such miracle without the electricities minus and plus, invisible. And the sun and planets, visible, such without the center of the solar system, invisible, and the magnet, visible, were such without magnetisms, invisible, and the plant or animal, visible such without life, invisible.

And we see these beings different in seeing the beings which could not be without them. And these we see in the sexes of the higher animals. There is not the animal, beast or bird in the male or female alone. Each sex is but an atomic and complementary part of the animal possible of both. And not seeing the beings different of the animal, we see that to its existence there are such beings, and that these are such as are the principles which differ, the female animal from the male.

This true of the vertebrate animal—consisting of fishes, reptiles, brutes, beasts, birds, and man, that it is at every stage and step of its course a current whole of atomic parts—is true of the insect; and of the worm, in the lowest forms of which, however, the male becomes so inconsiderable as to seem but a self fertilizing organ of the female. And is true, even, of rodiates, in some of which there are no differences of male and female observable, each appearing to be hermaphrodite; but one in which the female characteristics are so prominent as to give to each the appearance of that sex in reproduction of itself; and this but through units of itself which, ejected, can produce another polyp. These, so ejected, are termed spores to distinguish them from the eggs of higher animals, in which the sperm and germ, the male and female principles, appear.

But in these are these principles as they are in the eggs of the higher animals, or they could not reproduce the parent

polyp. And thus, from the amoeboid rodiate to the two-footed and the two-handed vertebrate; and from the polyp to man, there are beings different; and of their reciprocal affinities simply in reproduction, with variation to the conditions of existence, of the animal intermediate of both. And such animal at every stage of its progress from the rodiate to the vertebrate, inclusive, is a being physiological. In this there is motion physiological in the animal, being from its start in the radiate to its end in the vertebrate, as there are movements physical in the every individual animal, to the means of continuing its existence. And as these movements, general or particular, are in diversion of the equilibrium of the animal from its natural state and place about the center of the earth, they are in further proof that to them there are beings different, each a fulcrum to the activities of the other. And that thus the animal is more obviously of beings different than the rock which only holds its state and place at the earth's surface about the earth's center. But as the rock does this of its two beings, the one from, and the other to, the earth's center, and the one levity and the other gravity, and the one heat and the other cold, it becomes apparent that not only is the the animal of beings different, but that these are of the earth; and the one levity and the other gravity, and the one from, and the other to, the earth; and the one heat and the other cold; that the one is the energy through which the individual animal moves to its means, and the other the inertia, that impedes that movement; and the one the male principle through which the animal is impelled to its process of teleologic evo-involution, and the other, the female principle through whose acceptance that progress is projected.

And such the animal, so, of cause and consequence, and of nature, and of being finite, and of the word of God, and being physiological, as is the plant and so related to the plant as the foliage of the plant to its stem, it is the one of the two beings physiological in reaction of which is the organic stratum of the earth's crust. And it is female to the male plant. And pistil to the plant stamen. And foliage to plant root, and concentric to the plant eccentric, and toward the earth's [illegible] to the plant from it, and gravity to the plant levity, a[illegible]ism to th[illegible] plant electricity.

And such the animal that is, there is [illegible] and th[illegible] the animal hypothecated. And this anim[illegible]e. An[illegible] thus there is the animal and this of nature.

## CHAPTER XLV.

### There is Man, Also, of Nature.

There is man with the animal and plant at this earth's surface, and, accepting the plant and animal of nature, the only question is whether we must accept man, also, of nature? And we must accept him of nature if, of nature, there can have been the animal two-handed and two-footed; and if of that animal there can have been man.

The difference between animal and man is in that, while the higher vertebrate, with which only, man is to be compared, has four feet or four hands, man has two feet and two hands with an intelligence to co-ordinate the activities of its two sets of its supporting members; the animal having only the intelligence necessary to the use of its single set. And while the animal is solitary—each, by its individual activities, procuring the means to the perservation of its individual existence, man is social, and in groups of their common labors to the preservation of their lives in common. And, such the differences, we must accept that man is of nature if we find that of nature in an animal four-footed or four-handed, there can have been its variation into an animal two-footed and two-handed. And also that the animal two-footed and two-handed can have entered into associations in which, of their common labors and economies, there are the provisions for their lives in common.

These associations are of three orders, agamic, polygamic and monogamic. The agamic, consisting in the union for life between the unmarried mother and her offspring, infant and adult. The polygamic, in the union for life between several mothers and their offspring and a single male parent; and the monogamic, in such union between a single wife and her children with a single husband.

The agamic order, in the offspring of unmarried mothers, is of savages and in groups termed stocks. The polygamic, in the offspring of several married mothers from single farthers, is, in its earlier periods, at least, of barbarians in groups termed tribes. And the monogamic, of the families of single parents married, is of peoples civilized in states under governments, theoretically, by appointment of proprietary male parents, but actually by appointment of popular volition, in that their governments are by age of adult males without the qualification of either paren-property.

To the existence and integrity of either group there are its political and proprietary powers; the political, in its magistracy, and the proprietary, in the individuals that compose the group; and the political in a governing body to exact from individuals the services of person and property necessary to support the group in its integrity to the ends of its existence; and the proprietary to exact from the political government the rights of person and property not necessary to such support of the group. And the groups, being those of agamic stocks, and polygamic tribes, and monogamic states, the political power of the agamic stock is in the unmarried mother, actual or traditional, of such stock; and that of the polygamic tribe in the such married male parent, actual or traditional, of such polygamic families involved; and that of the monogamic state, in a ruling body, theoretically, by appointment of the proprietary male parents of the several monogamic families involved, while the proprietary powers, respectively, are in the individuals of the agamic stock and the polygamic families of the tribe, and the monogamic families of the state. And of the exercise of these powers, respectively, by the parties possessed of them, respectively, are the stocks, tribes and states of man respectively; and the integrities and the civilizations of those stocks, tribes and states are proportioned to the efficiences of their political powers in regulation of their constituents in exercise of their proprietary powers. And, for this reason it is, that, while the stocks are of savages, the tribes are of barbarians, the states are civilians.

And such the differences between the animal and man, if we accept the animal of nature, we must accept the man of nature, if, rationally, we can accept that of a four-footed or four-handed animal in nature, there can be an animal two-footed and two-handed possessed of the intelligence to co-ordinate the activities of its two sets of supporting members; and if, of that animal, there can be unions for life between female parents and their offspring; and unions for life between parents in production of offspring.

Such two-footed and two-handed animal, under such intelligence, were capable of more abundant means of safety and subsistence than were the animal four-footed and four-handed; and as such it were but a favorable variation of such antecedent animal four-footed or four-handed. And, accepting that the animal advances by favorable variations to the animal possible—that the radiate becomes the annulate, and this the articulate; and this the vertebrate; and the vertebrate fish the reptile; and this the quadra-digitigrade, and this the quadra-plantigrade, and this the quadramana—we must accept that so the quadra-

digitigrade, or four-handed animal, becomes the two-footed and two-handed, if we can accept that, straining to the means of food and safety, the four-footed animal can come to have its two fore feet changed to hands, or the four-handed animal, its hind hands changed to feet.

And, such the two-footed and two-handed animal, we must accept that of this there is agamic man if we can accept that of this there can be unions for life between female parents and their offspring; and that, of him, there is polygamic man, if we see that of the males and females of agamic man there can be unions for life in several females to a single male; and that of him, there is monogamic man, if we can see that of the males and females of polygamic man there can be unions for life in one female to a single male.

Such variation from an animal two-footed and two-handed, were variation favorable to a larger and better animal life. And such variation from a solitary to a social animal were such. The animal is solitary in that it is without unions for life between its individuals and in that each subsists immediately upon the means of safety and subsistence it is able immediately to procure; but it becomes social when of its associated industries and economies there are such means. And so, social, it becomes the first two-handed animal whose females unite with their offspring in the procurement of such means. Such animal were man, and in such man the variation to one in whom there were unions for life between parents, albeit there be several females to a single male; and in such man, the variation to a single wife to a single husband, and, thus, by favorable variations, such as are in nature, there were the animal four-footed or four-handed into the animal two-footed and two-handed, and this into agamic man, and him into polygamic man, and him into monogamic man. And seeing that there is, or was, the two-handed animal before there was man, and that there is agamic man and polygamic man and monogamic man, we must accept that there is man of nature, if we see that of nature there can have been the two-handed animal, or of this, agamic man, or of him, polygamic man, or of him, monogamic man.

## CHAPTER XLVI.

### There Was of Nature, Such Two-footed and Two-handed Animal.

There was such animal in that there is such animal in man. Whatever else, or more, there be in man, there is at least the two-footed and two-handed animal. And there was that animal before there was man. There is man, but in groups of such animals, associated to the means of a larger and better life than was possible to such animals, individually, without such assoications. Without such association such animals were solitary as are the other higher vertebrates. And while the individual animals, possessed of both feet and hands, with an intelligence to co-ordinate their activities in procuring food and escaping danger, could continue their existences where animals with but feet, or hands, and with but corresponding intelligences could not, yet such individual animals could not procure for themselves, individually, the means of safety and subsistence possible to a natural group in co-operation and correspondence to that end.

In such groups, therefore, there were animal lives not possible without such lives were human; and thus therefore, there is man, but in that larger animal life there is from such associations of pre-existing animals, two-footed and two-handed, which, for that reason, must have been in existence that man so should form from them.

The groups now seen, as those of man, are in modes of association, agamic, polygamic and monogamic, from unions for life of male and female parents and of parents and their offspring. And there must have been in existence female parents capable of offspring with which they could so unite. And with these females there must have been males to unite with them in marriage; for if there were not these groups, agamic, polygamic and monogamic, the individuals of these groups, and these groups and individuals must have been then specially created. And, nor this, only, but by special creations they must have been continued through successive generations to the present time. This is not to be supposed, and, without this, there was, before man, the two-footed and two-handed animal.

There was such animal, also for the reason that there is nature in the animal of which, through variations to the conditions of existence, there have been the animals successively possible from the amoeboid radiate to the two-footed and two-

handed vertebrate, with but the question whether, of nature, there were that animal, also. And, seeing the animal in nature, we would see that of that animal in nature, there were the animal, two-footed and two-handed, if we did not see such animal. We would see that the first vertebrate animal is the fish and that this, to live in waters then continuously about the earth, has acquired gills and fins, that the reptile to live in marshes afterward appearing, acquired lungs and locomotive organs. That to reach its food in the foliage of plants, rising from the land, there was the animal standing on its toes. That to take its food by capture and climbing there was the animal with claws, and that to take its food by climbing, capture and manipulation, there was the animal with four hands. And, seeing this, we would see that there is the vertebrate animal at least, in nature able to vary to the conditions of existence; and that if there be the conditions of existence available to an animal with two feet equivalent to the four of the four-footed animal and two hands equivalent to the four of the four-handed animal, with an organ of intelligence to co-ordinate the activities of these, there would be the animal to avail itself of such conditions. The animal, as every other mode of life in nature, lives to its opportunities of living. Filling one opportunity it flows into and fills the next. And it is only necessary to see that there was the opportunity of animal life beyond the reach of animals with but feet or hands, to see that there was the animal with both feet and hands to reach it. And it is clear, therefore, that there was such animal not only for the reason that it was necessary to man, but for the reason that it was possible of nature. In nature, as I have said, the possible is true. And, capable of such animal, it were cause of such animal, and there were such animal, or nature were cause without consequence, and the animal, in man, were consequence without cause.

Nor were the want of any legible record of such animal conclusive that it did not exist. There were of course, no tradition of its existence; and the only record were geological; and, of the tentative variations of either the four-footed or four-handed animal into such animal two-footed and two-handed there were no traces. These were necessarily failures, until the perfect animal had become established to obliterate the record of them. And whether that developed animal, be animal or man, we may not see by only the light that records throws upon it. As animal or man, it were the same, and in that we do see in pre-historic periods the evidences of a two-footed and two-handed animal, which we take to be man, there is ground for the belief that it was not then, man; and that, what we take to be the record of man, is

but the record of the animal before it had become man. There is such evidence that this animal did exist. There is no evidence that it did not, and, without some ground of belief to the contrary we must accept the fact of its existence. It can have existed but of nature, and we must accept that of nature, and before there was man, there was the two-footed and two-handed animal. Without this we must accept that with an animal in existence of nature, capable of becoming two-footed and two-handed to the larger means of animal life possible, it was not permitted to become so; but that an animal two-footed and two-handed, was specially created, and of powers not in nature, to become the man who now exists. Even then, by however short an interval, there was such animal before there was man. But such creation is not to be accepted and we must accept, instead, that before there was man, there was the two-footed and two-handed animal, and this, for the further and more conclusive reason, that nature was capable of such animal and such animal possible of nature.

## CHAPTER XLVII.

### Of the Two-Footed and Two-Handed Animal, There Was Agamic Man.

Assuming that, after there was in nature four-footed and four-handed animals, there was the animal two-footed and two-handed, it is proposed that of this animal, there was agamic man. There is man agamic, polygamic and monogamic, of whom the agamic was first, the polygamic next, and the monogamic last, and the question is whether the first agamic man was of the two-footed and two-handed animal.

To this it were necessary that the adult females of that animal, in giving birth to offspring, and nurture and discipline to these through their periods of helpless infancy, shall have continued in the relation of such mother and her offspring indefinitely afterward. Such mothers were unmarried, there being, as in the animals, no unions for life between them and their males by whom they will have been fertilized. But such indefinite relations of mothers and their offspring were unions for life. They were not perfect or permanent, and will have been virtually dissolved in the motherhoods of female offspring, who, in becoming themselves the mothers of such offspring, will have had a weakened sense of obligation to their own mothers. But,

until the motherhood of female offspring, there will have been in every such family of a single mother, a natural group of human individuals dependent, under orders of the mother, upon their common labors for their lives in common. And even after the motherhood of female offspring, there will have been the sense in these of their relation to their prime female parent. This will have been sustained and strengthened by experience of the advantages of such growing body to its common head. So that, while at first there were the animals in groups of such single agamic families, there were ultimately these families in stocks in subjection to the orders, actual or traditional, of an original female parent. And thus there were unions for life, however imperfect, between female parents and their offspring. Of these unions there were lives not possible without these lives were human. And thus there were man, or agamic man, at least, in an union for life between female parents of the two-footed and two-handed animals with their offspring, adult and infant, which, in antecedent animals existed but during the periods of helpless infancy. In this there is the single difference between the two-footed and two-handed animal and agamic man. They are of the same elements of matter, in the same compounds of such elements, in the same processes, physical, chemical and physiological, of such compounds. They are also of the same organs, members and appurtenances. They subsist upon the same food, procured in the same way and by the same means, and generate, grow and develop, vary and evolve the same, with the single difference, that, while the animal exists upon the provisions it is able, individually and immediately to procure and use, the man exists upon shares of provisions collectively procured and stored for use. Such man there is to such shares, in the union of unmarried mothers and their offspring; in this there is agamic man; and whether of the two-footed and two-handed animal there was agamic man, will depend upon whether of such animal there were such unions. And this, upon whether, of such animal, there can have been such unions; and it is quite demonstrable that there can have been.

Of the instincts and experiences of brutes, beasts and birds, there is the care, by mothers, of their offspring during the infancy of offspring; and during that period the obedience and attachment of offspring to their mothers. The mother, acting from her maternal instincts, and the offspring from instincts and experiences of the advantages of that relation, it is easy to see that, if such relation were continued through the lives of mothers and their offspring, both were the better of it; that it were so continued,

if, in both, there were the intelligence to perceive its advantages; and that, while there is not such sense of its advantages in animals possessed but of organs to co-ordinate the activities of pedimentary or manipulatory members, there were such sense in the animal possessed of organs to co-ordinate the activities of both. Such animal were not only perceptive, but reflective of conditions incident, and through such reflections of its experiences under previous conditions, were able to arrange its being to their recurrence. And while it may not be clear that the merely unilateral animal ever could have come to such unions, it is quite demonstrable that the bilateral animal, man, has done so.

In theory of such animal there were such unions if there were not agamic man to attest the fact of their existence. The every animal or that being physiological expressed in the animal, is capable of favorable variations to the conditions of its existence, and such, simply, were those of the solitary animal, two-footed and two-handed, to that animal social, the first necessary step to which were in such unions. It is not seen how, otherwise, that animal can have advanced from its natural state of a simple animal, or how, through such unions, it can have failed to become agamic man. And as, in theory of the animal, as of every other nature, there is its possible, and as of this the possible were agamic man, possible but of such unions, in theory, of the animal, there were such unions if there were not the agamic man in existence, who could not have been without.

But, without this, there is conclusive reason that there were such unions. There is this, in that there were mothers and offspring in unions terminable on the maturity of offspring with the sense in each of the advantage of its indefinite continuation; and in that of such continuations there were animals coming to exist which could not have come in any other way, and which were necessarily affirmative of the conditions of their existences. But the conclusive reason that there were such unions is in that there is agamic man.

If there be such man, he were without marriage—unions for life between the sexes—and, without other natural bonds between individuals than those consisting in the unions of female parents and their offspring: such man were agamic, and there is such man. We may not now see such man as he emerged originally. The nearest to him, perhaps, are the Andaman and Bushman; and in these there were no unions for life between parents, and the only natural bonds of coherence between the individuals are those of mothers and their offspring, infant and adult. Even these are not conspicuous, and the stock of either might be seen

without its being seen that there are these bonds; or that the stock is held together by any principle of social gravitation. But it can exist as a stock, but by some principle of nucleation, and there is no other principle than this.

It is probable that before the Andaman or Bushman, there was an agamic man still lower; that, at the start of man in woman and her offspring, the man was, in every way, inferior to the woman, and that before he had office in the coming man he was but a fertilizing agency, and as inconspicuous in such nascent man as the male principle of the cryptogamic plant, or the radiate animal; and that from that inconspicuous position he has advanced in the agamic man, now visible, to an equality, in physical attainments, at least, with the woman, though still subordinate in office to the woman, who, continuing the race in her offspring, has the political power to direct it, and in it to direct the man.

Nor in fact are the Bushman and Andaman the highest agamic men now seen. Man is agamic, simply, until he becomes capable of marriage, consisting in an organic union for life between male and female parents with their obligations, which are that the man shall furnish seed for the woman, and shelter and support her in her office of bearing and nurturing the offspring consequent; and that the woman, receiving seed, and sheltered and supported, shall so bear and nurture the offspring possible. And there are men seen much higher than the Bushman, in whom such marriages have not appeared. It is not apparent that there are such in the negro of Africa, or even the Indian of America. In these the males, physically stronger than the females, and not impeded by maternal offices, have taken possession and control of adult females, each able male of as many females as he finds it convenient to employ; and these are termed wives, and the males, husbands. But, it is not seen that either is under a sense of reciprocal rights and duties, or that these are unions, or that these are indissoluble.

And though these engagements may stimulate the polygamic family, they are not such. The polygamic family is the nucleus of a tribe, the parent of a caste of tribes, in political and industrial relations to each other, the structure of which caste is dependent for its existence and stability upon the indissolubility of the union between the parents and their children. There are not even in the Indian such unions of parents, nor is there the tribe capable of resolution into castes, priestly, militant, industrial and servile. Without this the Indian is not polygamic; the less so is the negro; and these not polygamic, are agamic, and

exhibit instances of agamic man much higher than the Bushman.

It is probable that agamic man, the first, was, in the hour of his becoming such, continuously about the earth. It is seen that the earth is in revolution on its axis with an equatorial velocity, at its surface, from west to east, of one thousand miles an hour, with all things movable or liquid, tending oppositely. That so are the waters, rolling in tides from east to west about the earth; that, so arrested by equatorial lands, they break into streams to lave the coasts of America and Asia; and there are facts to suggest that so, from east to west about the earth, have rolled the tides of organic nature. That so has flowed the plant, and so the animal, in rising from its lowest forms, and that so has flowed the man. That each succeeding wave has obliterated traces of the wave preceding. That so man, represented by the Bushman, obliterated the traces of an antecedent man still lower; that so the negro extinguishes the Bushman, and the West Indian his antecedent, and the East Indian and the man of China his antecedents, and the European his antecedents.

That in this the tide of man has rolled about the earth, and risen as it rolled; that so the negro is, though still agamic, higher than the Bushman, and the Indian in America higher than the negro in Africa, and the polygamic East Indian higher than the agamic of the West, and the monogamic European higher than the polygamic East Indian. And, seeing that substances opaque under heat are first black, then brown, then yellow, then white, it were no great stretch of fancy to assume that civilization in man is as heat in such substance, and that, for this reason, the agamic negro of Africa is black, the Indian of America brown, the polygamic East Asian yellow, and the monogamic European white.

But, without this, there was, and is, agamic man, however he may have advanced from his original state. And that first agamic man was, by evolution of the two-footed and two-handed animal consisting in its variation through unions of unmarried mothers and their offspring. Such man, so emerging from the animal, were natural; without this he were supernatural. We may not believe him supernatural as we may not believe that there is the supernatural; and we must, therefore, believe that there is agamic man, from the antecedent two-footed and two-handed animal. We must believe this, or we must believe the miracle we cannot believe. We must believe that, with the two-footed and two-handed animals, capable of such unions of mothers and their offspring under experiences of their advantages, the cause of nature in the universe had gratuitously

stooped to make them do of other cause that which of their natures they were bound to do. And while it may be questioned that there was the two-footed and two-handed animal, or that there is agamic man, it cannot be doubted that of the animal existing there was agamic man, if such man exists. And he does exist. There are, or have been, unmarried women and their children, adult and infant, united indefinitely in procurement of subsistence without such indefinite unions even between women and men.

Their unions were obscure, as I have said, and imperfect and terminable, measurably, upon events certain to occur, but for the time, at least, they were unions, and were the first human integrations that did, or could, occur in the previously existing animal. And though it be impossible to say at what time or place they started to exist, or where they cease to exist in the agamic stock becoming the polygamic tribe, it is clearly seen that for a time, at least, in the course of man there was agamic man, and him from the animal two-footed and two-handed.

## CHAPTER XLVIII.

### Of Agamic, There Was Polygamic Man.

Between agamic and polygamic man there is the difference, that, while agamic man is from unions for life of female parents and their offspring, the polygamic man is from the unions for life of male and female parents having offspring in which unions there are several females to a single male. In sequence of this difference there is the agamic man in articulations indefinite and loosely coherent of his single bond of social union, while the polygamic man is in articulations not only more definite, but more coherent of his two bonds of social union. And while the one is in inconsistent groups termed stocks, the other is in more articulately consistent groups termed tribes. And as the individuals are in every way the same, and as there must have been the union of female parents and their children, before there were unions for life of parents, it becomes demonstrable that of an antecedent agamic man, there was polygamic man.

That there was such antecedent agamic man, by evolution of an antecedent two-footed and two-handed animal has been shown; and by evolution of such agamic man through variations favorable to his larger and better existence there were the larger and better man than the agamic; and such is the polygamic

man. And there is polygamic, of agamic, man, as there is the one stage of every being in nature from its antecedent stage. And as there is the one stage of the plant or animal of its stage immediately antecedent, so is there the polygamic of the agamic man.

This is, of course, dependent on the truth that there is polygamic man posterior to, and so differing from, the agamic; and there is such man.

It is not true, perhaps, that we find true polygamic man before we reach the coasts of Eastern Asia. Supposing a rising tide of man in waves, from east to west, about the earth from an antecedent ocean of two-footed and two-handed animals, and that the first of these waves was in the first and lowest agamic man, and that in him there have been successive waves, to the Bushman, and from him to the negro in Africa, and from him to the Indian in America still agamic, from want of unions for life between parents accepted by the state, it is probable that the first of such unions, and the first polygamic man, therefore, is found upon the shore of Eastern Asia.

It is not proposed that the Asian is more sensible of these unions existing, or more individually respectful of their obligations, than was the Indian, in whom they did not exist; but only that, not existing in the Indian, they were not taken up and into his social state as the conditions to the articulations of a higher state—while by the Eastern Asian, however unconsciously, they have been taken up and into his social state, as the condition to the articulations of his higher state. Upon the condition of an indissoluble union between the parents, and the parents and their children, only, is there the tribe proper, and upon the condition of the tribe proper, only, is there the caste of tribes, in respective contributions to the safety and subsistence of the tribal state. And as there is no conclusive evidence of the existence of tribes in caste to the production of the state possible of tribes united before those in Asia, there is reason that such tribes did not previously exist. And as of these the condition is of polygamic family, of which the condition is marriage, it is probable that the proper polygamic man did not previously exist.

True, in equatorial America, there are the traces of a people earlier than the present Indian and more articulately developed, but it is not clear that these articulations were based upon unions for life between male and female parents; and it is quite consistent with existing records that they were not, but based upon provisional arrangements for the co-existence of such people without such unions. But if they were polygamic peoples they have

ceased to exist, and the first now seen to exist are those in Asia. And there is there such man.

And he is of an antecedent agamic man. It is not probable that he is autochthonic, or came by variation of on-agamic man originating there. Advancements in man have been in migrations generally westward. These are made by the men of more than ordinary capacity and enterprise, for which, in the state of their existence there is not sufficient field as in the soil upon which stands the plant, there is not the place for its seed to start another plant; and the man, as the plant, must complete the present plan of his existence, before he can give place to the man of even a better plan who must migrate, therefore, to another place of starting.

Besides this, all distinguished states have come of immigrants, and these from the East. It is so that the monogamic kingdoms of Europe have come from the polygamic in tribal castes of Asia, and so the representative monogamic states of America have come from the kingdoms of Europe. And in the tendency of these peoples in these states to the Pacific Ocean, and thence to the Asiatic Islands and the coast of Asia, possibly, it is possible that so the present wave of monogamic civilization will overtake and ultimately supersede and existinguish the polygamic life upon that continent.

And it is not probable, therefore, that the polygamic man of Asia is from an agamic man of Asia. But that he is of an agamic man from some source, is as demonstrable, as that the individual man at any stage of his life, is of the same man at a previous stage.

And, however we may doubt that there is polygamic man, or that the Eastern Asian is such we cannot doubt that, if he be such, he is such of an antecedent agamic man. And he is such polygamic man.

The polygamac man, as I have said, is the man of two bonds of affinity, while the agamic is but of one. And these bonds being, the one in unions of female parents and their children, and the other in the union of parents; in the agamic man, the woman is the actor, and in the polygamic, the actor is the man. However loosely constructed, the pivot of the agamic family and of the stock of such families, is the unmarried mother; of the polygamic family and tribe of families and the caste of tribes, the pivot is the actual or traditional polygamic male parent. And considering these as human natures of force physiological in evo-involution to the man possible, they are complimentary forces and the one is electric to the other magnetic.

Of the agamic man, to himself, the male principle were electric to the female magnetic, but, considered as successive and adjacent stages in the evolution of the man, the agamic is electric and the polygamic magnetic. The agamic man is the indefinitely explosive human force in savage stock which the polygamic man accepts and turns to his uses possible in production of the tribe and the caste of tribes. And in this they are to each other as are electricity and magnetism in the electro-magnetic system of physical force physiological. Such is the use which peripherential magnetism makes of the radiating electricity producing it; and such is the use which, in the family, tribe and caste, the polygamic and magnetic mode of man makes of the agamic and electric mode producing it. It is not possible that there can be magnetism, but in the acceptance and administration of electric force; nor can it accept and administer electric force, but in the way of its own being possible in such administration. Nor, for the same reason, can there be the polygamic man, but in acceptance and administration of the monogamic man. Nor can the polygamic accept and administer the agamic man but in the way of its own being possible in such administration. Nor is there such way but through the polygamic family and tribe to the caste of tribes. But as there cannot be the acceptance and administration of the agamic by the polygamic man, but in such family, tribe or caste of tribes, so there cannot be the polygamic family, tribe or caste of tribes, but as they be of polygamic, in acceptance and administration of the agamic man. And we have but to see the polygamic family, or tribe, or caste of tribes, to see that not only is there polygamic man, but that he is in consequence of an antecedent agamic man. And in the states of Eastern Asia we see that there are, or have been, these.

In the more densely settled sections of Japan, China and the Indies, polygamic families are not common. Nor are there tribes, observable as such, but there are castes, possible only of pre-existing tribes, possible only of original polygamic families, and in this it is seen that if the peoples of these states are not now, they have been, polygamic. In polygamic there is the tendency to monogamic man, and in the densely settled sections of these states, that tendency has obliterated the traces, to a great extent, of their previous polygamic mode. But plurality of wives is yet admitted by their laws, and in the northern and western states of Asia, not so advanced, there are, in their original simplicity and vigor, the polygamic families and tribes; however, castes—a later polygamic stage—be not so conspicuous as in those states in which the earlier stages have so disappeared. And it is rationally

demonstrable, therefore, that not only is there polygamic man, but that he is of agamic man.

It is also seen that there was polygamic man in that it is seen there are monogamic states from tribes. In groping back through the history of every monogamic state we find that there was a time when it was in tribes. But, beside this in every monogamic state, at the earlier periods of its existence, the political power is by inheritance in its king and peers; and it can have been so in them but by its tradition from an antecedent tribal state. There is no tribe but in evolution of the polygamic family. And thus the existence of the polygamic man is attested not only by agamic man capable of such man, but by every state of monogamic man, no one of which can have come to exist as it is without such antecedent polygamic man.

Polygamic is also of agamic man for the reason that he is in every way the same, save that in polygamic man there is marriage, the union for life between male and female parents, not in agamic man. Such unions could have come of the nature of agamic man. In both males and females there will have been the sexual feeling in the males, constantly, and in the females, when that shall have been excited by her maternal instincts. To both there will have been the fullest enjoyment of the sexual feeling in exclusive unions for life; these implied to the polygamic mode, support of several women and their children, by the males, and the willingness of several women to share this services of a single male. It is probable that when the polygamic mode was started there were more females capable than males; and that capable females were forced to share the service of males, or go with her maternal wants ungratified.

The only conditions to such unions, therefore, themselves conditions of agamic man into polygamic man, were that capable males should be willing to support several females, and several females be willing to share the service of a single male. And if polygamic be not of agamic man, it is for the reason that these willingnesses were not of nature, but of miracle. The males and females were in existence as men and women not so married; and if of their natures they were so united, there was polygamic of agamic man. And, uniting, and not of nature, they were made to unite by miracles prompting them to that, to which of their natures, they were resistlessly inclined. To such unnecessary office there were not miracle, and polygamic were of agamic man, if there were no other reason. But there is other reason in that such were the course of nature in agamic man.

Of life, in every nature, there is its flow to opportunity of a more and better life; such more and better life were in the polygamic than the agamic mode of life; there were more provisions made, stored and used to better purpose; there were more human life in the polygamic than in the agamic mode; this were a favorable variation; this is natural evolution, in the earth, plant and animal, and unless the successive stages of the earth, plant and animal, in coming to their best and most, be by miracle, this stage of man is not. And of agamic, there was polygamic man.

## CHAPTER XLVIX.

### Of Polygamic, There Was Monogamic Man.

Between polygamic and monogamic man there is the difference that, while the polygamic man is of two bonds of union for life, the one of parents, male and female, with several females to a single male, and the other of parents and their children, the females and their children under the political power of the male parents, the monogamic man is of the same bonds, but with the qualification that to a single male there be but a single female, who, with her children, is under the same political power of the male parent.

From this results the further difference, that, while the polygamic unit advances, by natural increase, to what is termed a tribe of families, each under the political power of its male parent, but all under the paramount power, actual or traditional, of an original male parent, existing or hypothecated, the monogamic does not so advance, but, from want of such political power as is in the tribe king, the several monogamic units adjacent concur in the appointment of a body to such power, with such restrictions as may seem proper; so that, while the political power of the polygamic tribe is natural, that of the monogamic state is artificial, and not what it must be, to the natural development of the polygamic tribe; but what the peoples themselves think it should be, if not to the proper evolution of the monogamic state, at least to the advantage of the individuals of that state. And as there are such polygamic tribes, expanding into castes, so there are such monogamic families expanding into states. And as there are such tribes in Asia there are such states in Europe, with many reasons for believing that they are of polygamic

migrations westward from Asia, as there are monogamic migrations still westward from Europe to America.

It is not literally true that the political powers of European states are by appointment of their monogamic families. They are exercised by kings and lords, claiming them by inheritance from some pre-existing state; and it is true, perhaps, that they are by tradition from antecedent polygamic states from which the states of Europe have emerged, and are in fact but the powers of the king and chiefs of the polygamic tribe accepted by the monogamic states from their inability to make such appointments for themselves. But while so involuntary, their validity is but in such acceptance. Kings and nobles are naturally unable to enforce them upon peoples bent upon resistance. And the dispositions of peoples to resist them as unnatural are exhibited in the proscriptions of these political, by their proprietary powers. Such powers, by sufferance, are virtually by appointments of the sufferers. And this of the constitutional kingdoms of Europe, therefore, however they be involuntary are but the provisional expedients of those monogamic peoples for self-government.

But in all there is the constant and perhaps resistless tendency of the individual to encroachment on the state; and in this to the encroachment of the proprietary upon the political power. This in every state will probably result in republics under government by direct appointments of the peoples so governing themselves. And thus it is, that while the polygamic state is natural, the monogamic state is artificial, in so far, at least, as that the body of the state fashions its own head to order the peoples to do, not what they must, but what they would.

Such the monogamic man, there is such man. In every state of Europe there is a man, who, however he may be under political power, not of his own appointment, will not tolerate a plurality of wives, and who, at every instant, is resistive of the exactions of a hereditary government restrictive of his individual volitions. And in all the states of America, of emigrants from Europe, there is a man who, while equally intolerant of plural marriages, has discarded hereditary governments and has appointed governments of his own. Such man, whether of European kingdoms or American republics, is monogamic, and from an antecedent polygamic man. Such man existing is by evolution of an antecedent polygamic man, or he has been specially created at the time and places where he is, and, not so created, he is, by evolution, of such antecedent man.

And he has not been so created. To have been so he must have appeared upon the earth without parents. And, nor this only,

but the sequents of such original man must have been so created. The original man so created were without nature, and without nature he were without offspring possibly only, of nature. And the special power creating the first monogamic man must have continued in exercise to the creation not only of the every such man who ever did exist originally, but of every descendant of such man and of every man who now exists; and of this there is no evidence, and, for this, there is no reason.

Of the original creation of man we have the Jewish legend, but this is not sufficient to establish such creation of even an original man; and the less is it sufficient to establish the creation of a monogamic man after there was the polygamic man. The legend is not sufficient for the reason that the man and woman therein mentioned were not the parents of the human race, but only of the Jewish race. The Scripture story is a self-executed warrant of authority to the Jewish race to rule the other peoples of the earth; it is such warrant as every people of more than common capacity has executed for itself, and the Jews, themselves, would have repudiated and destroyed that record if they had seen in it a warrant for others to share in their authority.

Nor is it sufficient for the further reason, that, declaring a special nature to the creation of such man, it does not declare a special nature to his continuation. Not originating of the general nature of the universe, there is no reason that they should have had children of that nature, or that these should have had descendants. But if this were so, such descendants were polygamic as were then the Jews, since, becoming monogamic. And accepting the legend of the Jews, we must accept that there was the special creation not of monogamic, but of polygamic man, since such was originally the Jew, and that polygamic man, of his nature only, has become monogamic, and that monogamic man has, and, without special creation, of which there is no other evidence, does come from polygamic man.

But, without this, there is monogamic of polygamic man, if, under conditions supposable in any polygamic tribe or caste of tribes, there can have been capable men content with a single woman, or single woman competent to the sexual wants of a single man, and each of these conditions is complied with.

There is every reason to believe that the sexes in polygamic man were nearly equal in numbers. At the start of man, from the animal, it is probable that the males were not only less conspicuous, but less in numbers than the females. And that, at the start of polygamic, they were, if equal in numbers, not equal in capacities for the marriage state. It is probable, that while

females continued capable, and some males had become as capable as females, others and a majority, had not, and that the unfitness of many males for the responsibilities of marriage was the reason why several women fell to single males. There was a natural want in all women of fertilization, and protection and support in the performance of their maternal offices. And that the wants of all women might be satisfied, there was the assent of several wives to share the service of a single husband.

But it is to be believed, that, in this way, the males were brought up to equal capacities with the females; and that nothing more was necessary to the conversion of the polygamic into the monogamic man than that the male should be content with a single female and the single female be capable of meeting the sexual wants of a single male.

It is probable that the female animal, two-footed and two-handed, was in want of the male but at distant intervals, and that so was it with her in agamic and polygamic man. And it is probable, also, that the male, surcharged with seed—that there be no failure of generation for the want of it—required a sexual service which no single female could render. But that to meet the requisitions of the monogamic state, both made concessions. To unions of single males with single females, there were strong inducements. Not only in this way was there a larger and better offspring, but more perfect sexual and social enjoyments, under the inducements of which the males were content with less, and the females become capable of more sexual intercouse than were natural to either in the polygamic mode. And it is probable that, in this way only, was there the variation from polygamic to monogamic man. In this way there were families not under the partriarchal power of an actual or hypothecated polygamic male parent; and families, therefore, each a human social unit under the immediate political power of its male parent. Of such families there could be the state, under a government by appointment of male parents only. And thus there is the monogamic man, from the polygamic, by compromises in sexual intercourse of adults male and female, necessary to their co-existence, in pairs, who had previously concurred in groups of several females to a single male.

Other than this there was nothing done, or other necessary. Of this there were families in which there was a larger human life, in states under governments, to the enlargements of such families, and to the enlargement, therefore, of the race. All else followed, and there is now in monogamic states of man, but that in natural sequence of that originating cause.

There is more and better man in the monogamic state than in the antecedent polygamic. And for this reason, the monogamic man must supersede the polygamic in the way of his advancement. The monogamic man of Europe has emerged and advanced from the polygamic man of Asia; and though it be not probable he will turn upon that man, at least, while there are weaker agamic peoples in Africa and America to be overcome, yet it is probable that monogamic civilization will ultimately encounter, in its spread, the polygamic civilization of even Asia, and in this exterminate, or absorb it; while it is reasonably certain that if polygamic civilization were now in its way, it would be immediately removed or suppressed.

In this there were nothing but the natural results of such compromises of males and females to the monogamic state. Nor are there by monogamic man other achievements to warrant his claim to supernatural power. Beside, his states, under self-government so naturally resulting from such compromises, there is nothing in him to show that he is essentially different from the polygamic man. He has science, philosophy, theology and sociology of which he is justly proud. But, it is not clear that much of his science is not in re-discovery of truths known to polygamic man.

He has philosophy, but this not being in deductions from the hypothesis of any one central truth, is yet empyrical; and it is not clear that there is in it reality, or that it will not be swept away in the discovery of such truth.

He has theology, but this not being in the acceptance of a possible word and will of God in nature, but only of his conceptions of that word, may be as vain as is any other of his misconceptions. But besides this, and if his theology were in perfect consistence with religion in acceptance of the real word of God, it is not of his own invention, but of the Jews, then a polygamic people, who, themselves, were doubtless indebted for it to the conceptions of antecedent polygamic peoples, and he can take no credit for the invention of another.

If there have been supernatural achievements by monogamic man, therefore, they are in the way of sociology and consists in the subordination of the political to the proprietary power. In every being there are life and nature—and life, progress, and nature, conservatism—and in every state there are these, the people progressive, and the government, conservative, and in the monogamic state there are these, the people possessed of the proprietary power and the government of the political, and if the

monogamic man have merit it is in his substitution of adult manhood for male parental suffrage.

In antecedent polygamic states these powers are natural, the polygamic male parent, or tribe chief, having, naturally, the political power, and the individuals of the family, or tribe, the powers of person and property not required by the parent or chief; and in the earliest or nascent monogamic states the political power is in the king and lords, and the proprietary in the commons. And the most conspicuous achievement of the monogamic man is in his subordination of the political to the proprietary power. The earlier steps to this achievement are in the prescriptions of the powers of the kings and lords by those of the commons. And the final step is in the establishment of governments in exercise of the political power by the people in exercise of their proprietary powers. But this achievement, if more anomalous than it is, is not supernatural, but exactly that which every other life in nature does when the conditions of its existing nature are restrictive of its progress. Instead of governments by tradition, he accepts governments by appointment of popular majorities, which, instead of being unnatural, are as simply natural as are the resolutions of the individual man in assertion and conservatism of his individual existence, or in following the bent of his inclinations.

In this the individual enters into compact with himself, declaring what should be the course of his conduct under conditions probable, and this simply does the monogamic state. And the real question with respect to the monogamic mode of man is not whether it be supernatural, but whether it be the final and sufficient mode of man to the man possible. The man possible is intended. And whether the constituent units of a monogamic state—be they individuals or families, in possession of the proprietary powers of the state through them in appointment and exercise of its political powers—can make a state in which there can be the man possible, is to be questioned. And it is to be questioned, therefore, not whether monogamic man is supernatural, as he must be if not of polygamic man, but whether he be so natural, even, as that of his present nature he can give existence to that ultimate state of man in which there can be the most and best man ultimately possible, or must take another step in nature to that capacity, or is capable of such step.

## CHAPTER L.

### The Mode Not Enough for the Final State of Man.

The constituent units of a monogamic state are its monogamic families, and there is such family in every union for life between adults, male or female, whether or not that union be productive of offspring. In these units are the political and proprietary powers of the monogamic mode of man, who, emancipated from the state in which the political powers were, by tradition, in a regal government, assumes that power, which then inures to the male parents of the several families. There was such emancipation of the man of these states in their successful revolution from Great Britain, when, for the time at least, the political powers of the several families were in such parents, and what had been the results of their appointments of governments in representation of themselves, as such parents, it were interestesting to inquire.

Emancipated from the government of Great Britain, in which there had been the supreme political power over the proprietary, possessed by the family units of the English state, to the male parent of each colonial family as such unit, there resulted, with its natural proprietary powers, the political power so withdrawn from the British government; and this, from the want of other functionary, resulted in the male parents of such families who might have continued to exercise it over the proprietary powers of such families as a general governing body to its exercise over particular communities of families, willing to concur in such appointments; or they might have delegated that political power to governing bodies who then would have been in office by appointment exclusively of male parents, actual or potential; and these proprietary.

Each family will have been a human unit physiological, which, in the course of its becoming such, will have made the provisions necessary, not only for the safety and subsistence of its current life, but, of its industries and economies, will have stored a fund of such provisions for the future use of itself and offspring. This fund, of whatever it might consist, were, in effect, a store of reserved force physiological in exchangeable commodities, the physiological values of which were indicated in tokens termed money. This store, under the general name of property, will

have been committed to the government, in its appointment, and the appointment of such government, therefore, can have been rightfully made but by male parents, and these possessed of the property, the government would administer. There could have been no administration of it but to the good of the community of whatever individuals that might consist; but rightfully, no individuals could participate in such appointment of the governing body but as they shall have possessed the qualifications of parentage and property; and what had been the results of such governments in these states, it is interesting, if not important, to consider.

But such appointments were not made. Instead of the proprietary families appearing as the normal units of the states, the individuals appeared as such. The delegates to the several conventions forming the constitution of the states were not elected by indiscriminate suffrage—adult men only voting—but they voted, not as representatives of proprietary families, but as individuals in representation, not of monogamic manhood, but of individual manhood, as against the state of monogamic manhood, and as the entering wedge to whatever other representation of individual manhood might become necessary to dominate the monogamic state.

In such manhood suffrage there was the political power of the state, as, in its people naturally, there was the proprietary power. The proprietary thus came to jurisdiction over the political power as political had had it over the proprietary. This proprietary, also the political, could speak in conventions only by majorities, and by a majority, therefore, of a victorious party; and this in effect was but popular volition. The constitutional compacts, as they are called, were but the utterances of the strongest party in the conventions forming them. They were thus but expressions of the will of that party at the time possessed of the political power; that will was in no sense a compact, there being no other party to it; and it was unilateral, therefore, and of imperfect obligation on the party making it—if that party had continued in exercise of the political power—or more than the resolution of the individual which at any time he may reconsider. But no party in such state can continue in possession of supreme political power but by physical force, which, at the earlier stages of such state, it cannot invoke. The party superseding it will not regard its constitutional compacts further than it be convenient or profitable. So they have been disregarded. So the constitutions of the states and the United States have been altered or interpreted to the uses of the parties so pos-

sessed of the political power. And so it is that while a monogamic people becoming possessed, by revolution or otherwise, of supreme political power, may exercise it as a monogamic state through a government in representation of its proprietary male parents, in these United States they have not done so, but have put the state under the volition of its individuals expressed in majorities. The individuals, so far, are adult males, but the principle of individual suffrage being established, that must extend to adult females, and, ultimately, to infants, male and female, as that extension shall become, as in time it must, the condition upon which a party can attain to or maintain its power, which party, therefore, is popular volition organized.

As this has happened here, so it must happen in any other instance of the obtainment, by a monogamic state, of its supreme political power. The people of these states were singularly fitted to sustain their monogamic institutions, upon their emancipation from Great Britain. They were possessed of them as no other people ever were; they were under no exigences requiring the surrender of their monogamic beings; and none, certainly, to warrant their surrender to popular volition. And in that they have done so, there is reason that so, also, will every such state which, by revolution or otherwise, becomes possessed of its political powers, the dominant party, then the state will not sustain the state as against itself, and it is demonstrable that, under such volition, there is not the lasting state, or in such evanescent state the man possible; and so certain, therefore, that the monogamic mode is not enough for the final state of man, however it be a step in the way of his advancement to it. To such advancement changes must be made. Such changes must be in a lodgment of the political power in a body not subject to popular volition. And the popular volition of a manhood monogamic state, possessed of the political power, will not submit to its lodgment in such body. And as in such change there is the next immediately coming man, the monogamic man, as he now exists, is not only not sufficient for the final state of man, but is not sufficient for the changes necessary to such final state.

## CHAPTER LI.

### The Monogamic Mode not Sufficient for the Coming Man.

Assuming that the coming man is the man possible of the present monogamic mode, or of some modification of that mode admitting of a larger and better human life, it is contended that the present monogamic mode is not sufficient for the monogamic man possible, and the less is it sufficient for the man possible of any modification of that mode, which modification it must necessarily resist.

It is not sufficient for the monogamic man possible, for the reason that the monogamic man, becoming *sui juris* in his emancipation from the political power by tradition in some foreign functionary, immediately falls under the political power of his own adult manhood, in effect but his own popular volition.

It was so with the man of these United States. There never was a more developed monogamic man; there never was, or can be, perhaps, such men so suited to the continuation of his mode to its possible results; but he did not continue the monogamic mode, consisting in the political power, in a governing body, by appointment of proprietary male parents, but started a new mode in which the political power was in a governing body appointed by a majority of adult males, not necessarily possessing the qualifications either of parentage or property.

There may be sufficient reason why he did this; it may be that he could not do otherwise; and that he ought not to have done otherwise; and that the states are better than had been such monogamic states; but the fact remains that he did do so; and the conclusion is resistless that so, as he did, must every emancipated monogamic man; and that monogamic man emancipated, must achieve his further fortunes under the dictates of popular volition, and, under such dictation, there is not the monogamic state possible, or in that state the monogamic man possible.

That there be such a man possible, there must be the marriages possible; and the children possible of such marriages; and the children possible must be educated by their parents to the uses they may have for them; and the families must be secure of their rights of person and property to the extent that they are not necessary to the support of the state, which can take them only by rateable assessments; nor can the state, such fiduciary, bind its principles, by contract, or any obligation not incurred in

admirable, they are not such as are consistent with the monogamic state of man possible. This man of manhood suffrage may be termed the "Manhood Man" by ways of distinction from the man of proprietary parental suffrage, to be termed the "Monogamic Man." And while the manhood man may be the more admirable, and in plaudits may "fret his hour upon the stage," he is not so destined to that larger and better common human life as were the monogamic man in a state conservative, not of party but of itself.

But while the monogamic man, so necessarily under manhood auspices, cannot become the monogamic man possible, he is further deficient in his inability to accept the modifications of his monogamic mode that may become necessary to the man ultimately possible. It is as certain, perhaps, as anything can be in nature, that man is destined to the man possible; and to the most men possible, and to the best men possible, that he be his most; and to this by favorable variations in his modes to the conditions of existence; that there are the conditions of existence to a larger human life than is now upon the earth, or that can be on it under the monogamic mode of manhood suffrage, and that to this larger life it will be necessary that the present monogamic mode shall be altered, at least, to the extent of eliminating from it the manhood rule. And this elimination the manhood rule will not accept.

Such elimination can occur but in the establishment of a disfranchised class. So long as the monogamic state, necessarily proprietary and parental, is under the rule of a majority of individuals possibly without qualification of parentage or property, there can be no advancement of that state to the ends of its existence in the man possible, but only to the ends such majority may propose; and they must, of necessity, propose the ends in advancement of their individual interests at the expense of the state. Interest is the declivity of human action as resistless as is gravitation; and individuals possessed of the state will yield to the suasions of the one as of the other; and the state possessed of its fortunes must be of two classes as head and heels, the one to direct, and the other to follow. But such classes can co-exist only as they be of different races. It is impossible, as we have seen in the experiences of these states, that one race can articulate itself. These states, becoming independent, were articulated monogamically. There were the families possible, as natural beings, and as different and distinct from the mass of individuals, as are houses from their masses of bricks. And if organized man could protect himself from man unorganized, these had done so;

but they did not; and in that they did not, there is reason that no single race of man can so articulate itself in classes, the one of which participating in the proprietary is excluded from participation in its political power. But there are unequal human races on the earth. There are races agamic, polygamic, and monogamic, and these, though equally human, are as unequal in their abilities to comply with the conditions of human existence, as are the successive animals, four-footed and four-handed, or two-footed and two-handed. But while so unequal of themselves to so comply, there is no reason why the two-footed and two-handed animal should not have availed itself of the powers of the four-footed and four-handed, in procuring the means of safety and subsistence for them both; and this without allowing it participation in the plans by which such means might be procured. To such a lower animal there were a more ordered and more and better life than were possible to it without. And so there is no reason why monogamic man should not so avail himself of polygamic or agamic man. There is, perhaps, too little difference between him and polygamic man; but between him and agamic man, such as is the Negro in Africa, there is such difference as to admit of their co-existence in relation, and to the betterment of both, without the participation by the Negro in the political power. This relation were that of master and slave, and the master were as solicitous for the well-being of the slave as of other property of equal value, the slave were as loyal to his master as is the lower animal to the man who protects and feeds it; and, reciprocally supporting each other, in their respective offices and powers, the master in exclusive exercise of the political, and the slave participating in the proprietary power, there were then a monogamic state in which the individuals possessed of the proprietary, were not, also, in exercise of the political power. And this in emendatory modification of the present monogamic mode of man.

Nor is this of fancy merely. There was such union of such unequal races in such relation at the South; and such was the solicitude of masters for their slaves; and such the loyalty of slaves to masters. To the extent of their estates, the masters protected their slaves from medicable ills and injuries; and they sent their sons with less reluctance than their servants, to the fields of battle. And I have known negroes to lament the loss their deaths were about to cause their masters; to shed tears over the death of animals or the destruction of other property of their masters; and, with their masters in the army, to run risks in protection of their masters they had hardly taken to protect

themselves. And when the war raged, and all able white males were in the field, and mothers, wives and children were at home with none but slaves to provision and protect them, they were provisioned and protected by a solicitude and fidelity as perfect as that they would have experienced from their natural protectors. Nor, expectant only of the approbation of his master, was the slave ever vaguely thoughtful of participation in political power. And they were best contented with the strictest discipline which the master, with parental tenderness, had occasion to impose. There were inducements of interest in whites and blacks to early marriages; and to the children possible; and to the education of children to the works they might have to do in enlargement of the estate, in which was the slave as much concerned as was the master. And so, integrating, and growing, with the best of home-made educations in the things worth knowing, and without education in the things that were not, there were on every plantation, at all the points available, nascent, natural municipalities to agriculture, which multiplied and grew to states of peace and plenty never known before, perhaps, at any place about this earth.

White men rarely injured whites, and negroes, negroes; but the instances were phenomenally rare of white men injuring negroes, or negroes, white men; and for the hundred years before the war, there is the record but of two inconsiderable attempts at insurrection, and scarcely more of outrages of negro men upon white women. And negro women nursed their mistresses' children before their own; and mistresses tended their slaves in sickness as they did their own children. And such the peace, so, also, was the plenty. These natural municipalities were all agricultural, the first objects of each of which were the provisions for the support of its members; there were few towns or cities of any size, there being no occasion for them; and little money to token their disposable commodities for the reason that there were few commodities to be disposed of; and, in sequence of this, there were no tramps or beggars, and of the 8,000,000 descendants of the 400,000 imported negroes, the most improvident of human races, there was rarely one who, without accident, ever suffered for the want of food or clothing. And all these natural municipalities were without, but in name, superior political governments to order or advance them.

The men of the South were not more intelligently possessed of their real situation than were the manhood men elsewhere, of theirs. To the manhood men consisting in the possession, by a victorious party, of the political power of the state artificial, gov-

ernment was a necessity—that being the only means by which he could sustain his unnatural position; but to this man of the South, himself—each the natural head of his compound family, of which families together there was the state, it was not necessary—his volitions being the only government required. Still, not sensible of this, he simulated, with great fidelity, the political contrivances of manhood man elsewhere. He had his political constitutions, stipulating individual rights and obligations, he did not really recognize; and he had his legislature by its enactments to carry the provisions of his constitution to effect; and in his legislature he deliberated with great propriety and composure, and passed laws, as they were called, which were as without effect upon himself, in the course of his development, as are the resolutions of the individual upon the course of his development. But in this, and all other exhibitions of himself, he was truly admirable.

The man of South Carolina was, perhaps, the most perfectly developed man of the South, for the reason only, however, that in him there was the largest number of slaves to masters. He was not, individually, of greater ability than the men of other Southern states; but, from the excess of slaves, he was, necessarily, a slave owner; and in his every office he was the representative of slave owners; and, conscious of such superior office, he was conscious of its requirements. He took no office simply for its emoluments, and held it no longer than he could best discharge its duties. His judges were for good behavior, which meant for life. The man in office held it so long as he discharged his duties. The man named for senator or judge did not venture to solicit votes, or to visit the legislature, but on business, pending the election. No member of the legislature was ever suspected of a bribe; nor could he have held his seat a day after there was plausible ground for the charge that, for pecuniary or other consideration of undue individual interest, he had performed an official act. And a body of such order and decorum has not before or since been seen. Public sentiment was supreme. Men of the highest claims to consideration were remitted to obscurity for a breach of social morals; and so wide was the margin between impropriety and vice that women rarely ventured to traverse it. Divorces were impossible, and disturbances in families were rarely heard. In rare houses of ill-fame there were only women from other countries. Jails were rarely tenanted, and criminal courts were generally without business. Accidents, and calamities, even, were uncommon; and

the journals of that state were dependent for items of sensational interest upon the calamities and crimes of other states.

Such was the man of an union of unequal race established of the South, in whom there was a disfranchised class; and, however offensive he may have been to manhood man, or to the sentiment of any moral man, in fact, there was, at least, in him the elimination of popular volition as the political power of the state, and he was, to that extent, a variation, and, perhaps, a favorable variation, of monogamic man necessarily affected as he is by that condition of political power in popular volition.

But monogamic man at the dictation of manhood man has repudiated such men of the South, and has warred upon, suppressed and extinguished them. There are many reasons for believing that in this man of the South there was the promise of a more ordered and enduring state, and in that of a more and a better man than was possible of merely monogamic man under any other conceivable conditions; but, certainly, under the condition of its political power in popular volition. And in that it has so suppressed this man of the South, there is reason that, not only is no monogamic man in himself sufficient for the coming man, but that he is incapable of the variations to a mode of man that is sufficient. And not sufficient for the ultimate state of man and not susceptive of the changes in himself necessary to that state, he were not supernatural, or even completely natural, if he were able to sustain indefinitely his state of manhood man. But it is to be doubted that he is so able.

## CHAPTER LII.

### Nor Can it Perpetuate Its State of Manhood Man.

The question being whether monogamic man be of polygamic man, as he were, if he be of nature, and whether, therefore, while the two-footed and two-handed animal and agamic and polygamic man are of nature, monogamic man be supernatural; and, seeing that he is not supernatural, from being of male and female parents united, singly, or fully, and finally natural even in his inability to produce from within himself, as he originally existed, the man possible; and from his inability to accept the changes of his mode necessary to the production of such man; there were further evidences that he is not supernatural, or completely natural even, in his inability to sustain, indefinitely, his adopted state of adult monogamic manhood. The monogamic

man is adult when, naturally possessed of the proprietary power, he comes by that to the possession, also, of the political power. This, we have seen, becomes, necessarily and directly, the volition of a victorous party, and through the volitions of such party, the adult monogamic man cannot sustain to perpetuity his monogamic state. And, not so able, he is not only not supernatural but is not completely natural in that the ultimate monogamic man of nature must be the man possible who, to be such, must be in states of perpetual existence; and no monogamic man is in such state.

The men of Continental Europe are not, for in the state of every one of them,, save France and Switzerland, there are changes, in them from the encroachments of the proprietary upon the political power by tradition in its government. Nor is the man of England in such state. At every period since the establishment of supreme political power by the Norman Conquests in the Kings and Lords there have been prescriptions of that power, by the proprietary, in the Commons; and with every prescription there has been a change in the state; and the question of the elimination of the house of Lords is now pending which, when it is accomplished, the political power in England will be popular volition as it is in France, Switzerland and these United States. And as these states of England and Continental Europe have not been permanent, or perpetual, at the successive periods of their histories, so will they not be when they become so subject to the wills of the majorities.

Personifying the different modes of monogamic man as they have yet been developed, and, terming the man of male parental proprietary suffrage the "Monogamic Man," and the man of adult manhood suffrage the "Manhood Man," and the man of master suffrage the "Master Man," or from the place of its existence, the "Man of the South;" and assuming that under the conditions of the monogamic man becoming adult, from his becoming possessed of supreme political power, in his becoming emancipated from the traditional functionary of that power, he becomes the "Manhood Man"—the adult man of every such monogamic emancipated being the only persons ready to act on such an emergency—it is contended that the manhood man, so in possession of the situation, is not only not able to sustain the monogamic man, or the man of the South, in variation from the monogamic man, but is not even able to sustain that state of his own volition, which, to the exercise of the political power, he must adopt.

He is not able to do so if he would, and he would not if he

could. He is not able to do so if he would for the reason that the state of man is as independent of the volitions of its individuals as is the state of the individual man of his individual volition. And he would not do so if he could for the reason that even his volitional state, to the extent of its existence, must limit his individual volition he is not willing to have limited. That he may have, not liberty, but freedom, is the object of his manhood state; and if he could sustain such limitation of his freedom, he would not. And this, the truth of theory, is the truth, also, of experience.

The man of this republic was possessed of the proprietary power subject to the political power in the government of Great Britain. This, also, by the revolution he took. Then, possessed of both, he was in condition to establish a state of their relations possible, and he was singularly fitted for that situation. He had morals, intelligence and experience. He was largely agricultural. And, the war of independence ended, he was without the pressure of any exigency to precipitate his movements. And what he did, therefore, was probably the best that any monogamic man can do under like conditions. He was in condition to adopt a state of monogamic manhood under a government by appointment of proprietary male parents, or a state of manhood, merely, under a government by appointment of majorities of individuals. This was, originally, with the qualification that the electors be adult males, and, in some cases, that they have property. This state of the political power in popular volition was obviously for the reason that the adult man, assuming that power, were the only members in the community in condition to act on the situation. As it was here, so, at such exigency, must it be elsewhere. And it is reasonably certain, therefore, that every man, achieving his political power, will exercise it in that way, with but the question whether the state, so made, be natural, or whether a nature in the manhood man, himself, be not independent of that state.

That it is so independent is in the facts that the intentions of their constitutions have had no effect upon the course of human being in these states, since every phase of that being has been such as their constitutions did not intend it should be. In these states, at the adoption of the Federal constitution, there existed both monogamic man and the man of the South; and it was not intended in that compact between them—the only real parties to it—that either should become supreme, and, so, the expounder of that instrument; or that while one took its laborers from Europe, the other should not take its from Africa; or that

These things have happened, or are in the way of happening, and it may be safely said that they were not intended—no union would have been formed with a view to these results. And the man of these states has gone on, not of his own inventions, but of his nature, to his ends possible; and with as little reference to their constitutional manipulations as has the weather to those of the lunatic or rain doctor who may have assumed to have it in charge.

In this the actor has been the manhood man, extinguishing thus, of necessity, not only the variation in the mode of man, but the monogamic man himself. And, not able to sustain these states from his utter inability to substitute this creature of his invention for nature, he is as unable, for the same reason, to sustain the state of his own invention, however he might wish to do so. He can, of intention, perpetuate his state not more than can the individual, through such intention, perpetuate his own existence. But the manhood man is the less capable of such perpetuation when he does not intend it. And he does not intend it.

His wish is doubtless that the state of his adoption shall last indefinitely; but his intention is, whether it last or not, to get what individual advantage he can out of it. And, such intention, with respect to a state that it exist but to the uses of its individuals actually existing, is not the intention to sustain, but to dissolve it. And that such is the dedication of his state to the uses of its individuals by the manhood man, is in his utterances and acts—"That the voice of the people is the voice of God; that the government is of the people, for the people, by the people; that its constitution shall change with public sentiment; that the representative in legislation shall express simply the wishes of his constituents, not with respect to the state, but to their share in its estates to be administered; that, in this, intendments are to be against the state; that its offices are the spoils of victorious parties; that they are to be filled by popular vote, and for short terms; and that there be rotation in office; that capital shall have undue protection, and labor such compensation, at the expense of, and by order of the state; that men and women shall marry or not, as it may please them; or, marrying, have children or not, as it may please them; or, having children, that these may be educated by the state; that women shall have the right to vote, and to compete with men for employments, however this may relieve men from their obligation to support them; and indispose and unfit them for their natural office of continuing their race; that married women shall hold separate property, and contract and hold legal rights and actions against their husbands,

however this may destroy the natural monogamic family; that divorces be had at the pleasure of the parties; that property, not necessary to the support of the state, be not secure in owners, but be charged by bonds of the municipality, or state, imposed by the votes of individuals not owning property to bear the burden, but interested only in the uses to be made of the funds resulting; that the state, to the interest of individuals, enlarge its property by enlarging the indices of its value through fiat money, or by making silver, of unequal value, current as gold; that the state must support, not only the afflicted and helpless, but the improvident, incompetent and criminal; that it may not convict the criminal until defensive technicalities are exhausted, while individuals may instantly lynch him; that, for offences less than capital, it may not inflict physical punishment other than that of confinement to physical labor; and that, in labor, it may not work him in competition with honest workmen. That, required by capital to invite labor from abroad, by labor it be required that the immigrant shall come without contract to secure him a subsistence when he comes; and not from China, whose emigrants can come but to compete with labor here without increasing its political power."

Such are the utterances and acts exhibited by the manhood man of this republic, and though they may be unobjectionable and admirable, even, and have resulted in this most splendid state of man, they are not to the establishment and support, but to the ultimate subversion of that state. No ancestral estate, however vast, can survive its administration to the heirs. And, as heirs, these people insist upon the administration of this state even while there is, or may be, life in the monogamic ancestor.

And such the acts and utterances of that man here, such must they be, under like conditions, of that man anywhere. And they show that not only would he not sustain the state of monogamic man, or master man, against his own, but that he would not sustain his own against himself. They show that his state of popular volition is but the contrivance by which the estate of antecedent monogamic man can be made the spoils for partition among manhood men, who can withhold themselves, from their shares available, but as larval insects can from the carcass of their host. And, though the suggestion seem absurd, that monogamic states, including this, becoming manhood, must soon after come to the close of their existences, it is to be feared that it is true, since, not only is it generally true that states, as individuals, are doomed to death, but in this state there is seen the disease that must execute that doom.

If the two orders of men, the monogamic at the North and the master man at the South, had continued to co-exist, even if they had existed as they were, under the supreme political power of manhood man, without either being able to suppress the other, and the man of the South, necessarily agricultural, had continued, as he would have done, to furnish the raw material for the man of the North to commerce and manufacture, and thus they had continued to counterpoise each other, even under the general government of manhood man, there is no reason why they might not have run on indefinitely, side by side, to indefinitely distant ages; as there is no reason why man and woman, so supplementing each other, might not give existence to a state of their offspring through indefinite generations. But if women, acquiring the power, should emasculate the men, it were then impossible that there should be such continuation of the race. There might then be a state of women like men, and men like women, more ordered and admirable than it had been, but it were not a state to last beyond the lives of those participating in it. And so, when the North, acquiring power, unsexed the South, there is a state more ordered and admirable, perhaps, than it was before, but it is not a state to last indefinitely, or much beyond the life of the manhood man, now, alone, existing in it, whose existence is co-extensive with his office, and whose office is but to administer upon the estates of the men so ceasing to exist as complementary modes of man.

It will be said that the manhood man, in exercise of the supreme political power in this state, is not in popular volition, but in the constitution, by which it is ruled and regulated; and, beside this, that such volition is under the control of men of wisdom, magnanimity and patriotism; that these do not intend that it shall go to the dissolution of the state; and that the state is too in its prime, and too distinguished in letters, science, arts, policy and arms, to be extinguished. That to its existence is its plea that it has asserted the equality of man; that it has liberated its slaves; that it has helped all people in insurrections against their governments; that it has sent missionaries to heathens; and protected the republics of America from the monarchies of Europe; but, while it may be doubted that all men are equal; or that any causing the liberation of slaves, participated in the loss; or that insurrections against governments are always meritorious; or that the heathen is the better of missionaries; or that the republics of this continent have been the better of our protection; or that our achievements in arms have always been commendable; or that our arts and sciences are more than re-inventions and

doubted that the state, more than the individual man, will find a sanction for vice in the pleasure it affords him. But, whatever may be said or felt, the truth remains, that no human state can stand to its ends in the man possible, but as in it there be distinct natural parties to the exercise of its political and proprietary powers; and the less can the state of monogamic man. The tribe of polygamic man can stand to the tribe possible under the political authority, by tradition from its actual or hypothetical male parent, through the male parents of the tribe. And this tribe possible may stand to the caste of tribes possible under the same authority. And the state of monogamic man can stand to its man possible so long as its political authority is by inheritance in kings and lords, or its political power be in proprietary male parents. But in the course of every monogamic state this traditional party to that power must cease to exist, proprietary parents cannot take the power, there is then a state of monogamic man but as it may articulate itself into parties, the one to the political, and the other to the proprietary power. And the state can last but as can these parties; and the political party, existing but in the volition of the proprietary, can last so long, only, as the proprietary party would have it last in restriction of itself. This cannot be for long. The instant volition of the proprietary party then becomes the government; in consistence with which there is no longer the monogamic state to stand to the ends of man possible, or to other end than the enjoyments of its individuals.

To the stable monogamic state, therefore, there must be independent and co-ordinate parties to its political and proprietary powers. These can consist of but unequal races of men united but in relations of inequality. So as that, while they may not miscegenate, the superior race shall possess, perpetually, the political power over the proprietary power of itself and the inferior. This relation were not necessarily that of master and slave; that of caste, while less offensive to manhood man, were quite enough. And though it may be doubted that even such state could last forever, or without other change to the man possible; and it is certain, perhaps, that it were unacceptable to the monogamic peoples of any single race, possessed of their political power and intent on using it to their utmost possible individual enjoyments, it yet would last indefinitely beyond the period to which any voluntary state of a single monogamic race could go. In this way, monogamic man could go further to the ends of man, at least in nature, than any such man can go now. And without this, any state of monogamic man can have but a brief existence. And,

not sufficient for the final state of man, or the coming man, or the perpetuity of its own state of manhood-man, it is not only not supernatural, but is not even completely natural, as is not the infant, from its inability, through natural defect, to attain to its own maturity. Nor is polygamic man, or agamic man, or the two-footed and two-handed animal. But not so, they are, as far as they go, in the way of nature; and man, in every of his phases, therefore, is of nature, however every existing phase be short of the man that yet must be.

Of nature, therefore, there are man, animal, plant, earth, sun, star and universe, no one of which were possible without nature. And as there were not nature, life, matter, space, force, being finite, or the word of God, without reality, there is, in the existence of these, or in the existence of the one of these, the evidence conclusive that there is reality—if there were not, and of nature, also, the mind of man—to which, if it exist, and of nature, there is a nature of reality in force throughout the universe, and man in continuation of that nature at this earth.

## CHAPTER LIII

### And of Nature There is Mind in Man.

There is in man the faculty of reflecting his experiences recorded in his conscience. Upon this, there are impressions of external objects incident as upon the photographic plate there are the pictures of the landscape. These impressions are in ratios of the objects to produce them; so that, observing the impressions, by reason of induction, we find the objects to produce them, in that they are the consequences possible of no other originating causes. These impressions may be of objects immediately incident, or, of incidences previously experienced and recorded in our consciences, or of the experiences of our ancestors inherited from them; and our sense of these may be intuitive, merely, as are the senses of its previous experiences in the plant, or instinctive, as are the senses of its experiences in the animal, or reflective, as are the senses of his experiences in man; that faculty of reflecting his experiences to the exigencies of his current life, in man, is his mind; and there is this in his every voluntary act in p[illegible] [illegible]ontinuation of his existence.

A[illegible]ure, [illegible], himself, is of nature. It is [illegible]nly individually able to accept

the conditions of his individual existence. Through means of his intuitive and instinctive consciences, man, as a whole, has advanced from the two-footed and two-handed animal to agamic man; and from him to polygamic man; and from him to monogamic man. But, to the individual man, agamic, polygamic or monogamic, it is necessary that he have the means of determining his individual activities to the preservation under conditions of his individual existence; and, this mind, there is this as there is the individual man, or the voluntary act of such man. And this is of nature as the man is of nature, or his act of nature. And as man is of nature, his every act is of nature, since if it be not, it were the miracle of consequence without cause, and, as such, it were of the promptings of an intermediary theos of eternal purpose. And God, causing through nature of his own being finite in force, the universe, stars, sun, earth, plant, animal and man, will not have endowed each individual man with a tutelary genius to instruct him in the activities necessary to the preservation of his existence, more than he will have so endowed the plant or animal. Such special providence were a miracle as great, in kind, as were the special creation of the star or sun, or earth, or plant, or animal, or man. There were no occasion for such miracle. The reality in nature sufficient for man were sufficient for the activities of man. There is no evidence of the existence of such miracle, in that there is nothing in such activities not consequence of sufficient cause, seen to exist in nature. And it is not more clear that there is mind in man than that such mind is of nature, And nor this, only, but that mind must see itself, rationally, if not consciously, to be of nature in the resolutions of an universe of force, of which man is in continuation at this earth.

Man's mind, in relation to nature, is as is his eye in relation to its object; and as the eye, in perception of its object, is not perceptive of its relation to the object, so the mind, conscious of nature, is not conscious of its relation to that nature. But as we rationally know that there is sight in the eye of its object, but in the reactions of the eye and object, so we must know that the mind is perceptive of nature but in the reactions of the mind and nature. And there is just the reason that the mind accepts its relation to the object it reflects, as that the eye accepts its relation to the object it reflects, however unconscious either may be of such acceptance, or the relation which it does accept. Accepting the result, either must accept the process, whatever that may be; that, whatever it may be, is natural and so of nature, and thus the mind must rationally, if unconsciously, accept its relation to

the nature it accepts, which is shown to be that of a nature of the universe of force in contemplation of the nature of that universe of force.

There is mind of nature in man of nature, and this is rationally forced, in accepting its existence of nature, to accept the nature of which it does exist; and to accept its relation to that nature; and to accept that nature is of a reality in force throughout the universe; and to accept itself as the outcome of that nature in man; and that man is, of nature in the animal; and the animal, of nature in the plant; and the plant, of nature, in the earth. And that he does not accept this consciously, is for the reason that he does not realize existence but in matter, and, not realizing existence beyond matter, he does not see how the beings matters can come from antecedents, not beings; or the earth, from its medium of such nothing in the solar system; or the plant, from its medium of such nothing in the earth; or the animal, from its medium of such nothing in the plant; or the man, from his medium of such nothing in the animal; or the mind, from its medium of such nothing in man, or that there can be media of being from which these beings come. But, when the mind of man shall realize, as it ultimately must, that there is being in that seeming vacuum we term space, as there is in that apparent plenum we term matter; that there is being invisible as there is visible; that the being invisible in space is of the same elements as that visible in matter; that, of its elements reacting, that in space is being physiological as is that in matter; that the successive media physiological from which are formed successively the earth, plant, animal, man and mind in man—such beings physiological—are the complementary, but invisible, parts of these beings visible, and as to them as is heat, invisible, to its light, visible, or the cause invisible to its consequence visible; it will realize that there are such media from which these beings come; and that there is such medium in man from which it comes and from which it forms, under the conditions to its most and best, as does the man from his medium, or the animal from its, or the plant from its, or the earth from its. And, realizing this, it will consciously accept, as it does now, rationally, that there is a nature of reality in force throughout the universe, of which man is in continuation at this earth, and that it, itself, is of that nature, whose current diorama it so accepts and reflects. And that it does so rationally accept a nature of such reality in force is in the fact that every sense, reason, science or philosophy of mind in man is upon the assumption of such universal cause in nature consequence.

## CHAPTER LIV.

### Man in Continuation of Nature.

If from what has been so far said it shall appear that there is nature of an universe of life and man of that nature at this earth, it will, for the same reasons, appear that nature is in continuation of life and man in continuation of nature. It will appear that nature is of life but as it be the means of life into the life possible through the successive stages of life in progress from the cause of life. And that man is of nature but as he be in representation of human life from nature into the further human nature of its possible in conservatism and enlargement of that human life. In this he were in continuation of nature as nature were in continuation of life with this difference, only, that in the one case nature were consequence in continuation of cause; and man cause in continuation of consequence. But, in that if there be nature it is of that infinite cause into finite consequence of which there are the sensible beings of this universe; and—life cause and nature consequence in a course of both to their ultimate results—it is, in principle, the same whether, in this, consequence continue cause, or cause consequence, or nature life, or life nature. And man of nature were in continuation of nature as nature of life were in continuation of life. And thus there is man in continuation of nature as surely as that there is man of nature, or nature of life. And, as this will not be questioned more than that there is man of nature, or nature of life, for every reason that there is man of nature, or nature of life, there is man in continuation of nature with but the question what is that continuation of nature to which man is so committed. And it may be said with confidence that it is that state of men associated in which there is the largest number of individuals supported upon the provisions for safety and subsistence they are able to procure at their places about the earth.

It may be admitted that this is not man's conception of his office. And that he is not, and would not be, in continuation of such nature. He is as simply egoistic and incapable of altruism as is the animal, or plant, or any other mode of life in nature. To every being physiological of life in nature from the unit to the universe; and from the moment of force to the universe of stars, there is the mandate in its being that it be its most and best, as the being it is at its time and place, without other altruism than

that consisting in helping others that it may help itself. And to that end that it shall enter into all the associations with others in which it can live more and better than it can apart.

It is thus that the unicellular plant has become multicellular in the cryptogamic, phanerogamic, endogenous and exogenous plants; and the unicorpuscular animal the multicorpuscular in radiate, annulate, articulate and vertebrate animals. And thus solitary animals, two-footed and two-handed, have become social in families, stocks, tribes and states of agamic, polygamic and monogamic man.

It is not conceivable that any human individual has ever, in exercise of any altruistic power he possessed, caused the family of which he is; or that *he*, or other, is in it but for the reason that so he is the better, or that for other reason the stock becomes the tribe, or the tribe the state; or that as life projected from its cause he could modify his course, of form with others, but from the impedients they offer to his egoistic course and the opportunities they offer to the more complete indulgence of his egoistic tendencies.

The theory requires, therefore, that not only shall man be in continuation of nature but in continuation of it to that state of man in which of the largest human labor possible there shall be the largest human life. And that, a state of unequal human races in relations of inequality.

It is not to be assumed that man supposes himself to be in such continuation of nature, or in any continuation of nature. Nor, in fact, does he realize that he is of nature, or that there is a nature of which he could be. But assuming these issues to have been decided in the previous argument, I have now but to show that man is in continuation of nature; and that he will continue his human nature to its capacity for the human life, possible, but through unions of unequal human races in relations of inequality. Such unequal races were, conspicuously, the monogamic whites and the agamic blacks, unequally able to provide and conserve the means of safety and subsistence. Such relations of inequality were those in which the whites should have the absolute power of imposing rules of individual conduct, and the blacks every liberty of individual conduct not inconsistent with such rules. And it is contended that in this way there can and will be states of more men within geographical limits and these the better fitted to be yet more to the utmost capacity of the every territory involved.

And that man is in continuation of nature. As I have said, he does not conceive himself to be. To be of nature he must be of that force of the finite word of God of which on the earth,

are plant and animal; and in the same dispensation of that force. And it is quite clear that if forced to admit that he is of such reality he insists that he is so through a different dispensation of it. And that while God had made the earth, plant and animal of such force, if he did so make them, by another exercise of creative power in such force he made man in no other relation to the earth, plant and animal, executed, and existing, than he might find it agreeable, or convenient, to assume.

And to be in continuation of nature he must be in the way of continuing his life into the nature of it possible, and so in becoming at places about the earth the man possible. And it is quite as clear that man has no sense of obligation to become the man possible; but only of the obligation to get the better of some one else, whatever that may lead to.

As I have said, man is simply egoistic, as is the every being of the universe and as is the being of the universe itself. And as is God the cause of being in this universe. Than God as the one cause there is no other. And of that absolute ego there is no "alter." And in that force physiological of the word and will of God there is the absolute egoism without more of altruism than there is in God himself. But that it execute the will of God in the beings of it possible there is an ego-altruism consisting in the coincidences and differentiation of differentiated egoisms in production of the being intermediate of both. And in the continuation and enlargement of every such being intermediate every such egoism becomes as interested as in the continuation and enlargement of its own existence.

The male and female monogamic parents are instances of such egoisms—differentiations of an antecedent egoism—in coincidence and differentiation to the family intermediate of both. The motive to conserve the family is as potent, nearly, as is the motive in each parent to conserve him or herself—since through the family only can their egoisms continue to exist. And this motive, not simply egoistic, is also not simply altruistic but in each parent is ego-altruistic in that thus in conserving and continuing the family each conserves and continues himself. Of this neither is conscious, nor is the family conscious of such motive in entering the tribe, or municipality, or the tribe in entering the caste of tribes, or the municipality the state, or the state the confederacy. Each is intent but upon getting the better of the others in the group into which it enters, and sustains and defends this, for that it contains itself.

And clear, therefore, that man does not realize his origination from force directly, or that original dispensation of force

through which there are earth, plant and animal, it is clearer, perhaps, that he does not realize his mission to be simply the man possible, and still clearer that he does not realize that he can attain to the man possible but through such union of unequal races.

That he does not realize his origination from force directly is in the general feeling of repugnance to that proposition. And that he does not realize his mission to be simply the man possible is in his every utterance, or act, theological, physiological, or political.

From the earliest times there have been the inquiries by man as to his being whence? and whither? And the earlier philosophies were in acceptance of the truth that he is from the same source as are the other visible beings of the universe. They did not accept that this source is the finite word of God in force. So without science were even the earlier Greek philosophers, that they supposed matter, water, air and fire to be primitive substances of which through movements of some sort there were the earth, plants and animals. Nor did they seem to question that through such movement came also man. But, unable to agree upon that process and from what source, therefore, there was man, they resolved that, being here, he was under two moral motives, the one egoism and the other altruism, and the one interest and the other duty, and in advancement of the one principle of human action were the epicureans and of the other the stoics.

The question of the source of man they thus left undetermined by philosophy was decided by the men of different countries for themselves, who, with singular unanimity in their actions, affirmed that not only was not man of the same source as earth, plant and animal, but that he was by appointment of a different power; and to dominion over these. And, nor this, only, but that every race or state of man should have dominion over every other it could overcome.

It is thus that tribes on fertile plains, becoming peaceful, have been subdued by hill tribes adjacent, themselves becoming peaceful in turn to be subdued, until there were states of tribes in caste relations to each other.

It is thus that others have invented Scriptural authority, from their special causes, to rule the other peoples of the earth. And that, without even this, empires have been established over conquered kingdoms.

And when men of science were obliged to accept truths consistent only with the truth of such reality in force from teleologic evo-involution of which there could be the earth, plant, animal

and man; and without which there could not rationally have been either, the fact was not accepted.

Such was that of the revolution of the earth upon its axis; and that of its movement in its orbit about the sun; and its movement in an ellipse with the sun in one of its foci, and with its radius victor sweeping over equal areas in equal times and with the squares of their periodic times in proportion to the cubes of their mean distances. And such was that found by Newton, in the light of Kepler laws, that all matters at this earth's surface are under the same actual or potential motion to the earth's center, expressed in gravitation, as are the planets to the central sun, and that the law of terrestrial gravitation, therefore, is that of the movement of the planets. And that by Bacon, that through induction of phenomena as consequences only can we find cause. And that by Dolton of the laws of constant, reciprocal and multiple proportions of elemental atoms in combination. And that by Gay Lursac, and Avogado, of the density and volumes of elemental matters in their gaseous states and of the specific heat inversely to the atomic densities of elemental matters. And that by Bode of the planetary distances from the sun. And that by Jude of the mechanical equivalent of heat. And that of the origin of species by Darwin, and of evolution by Spencer.

No one of these and the innumerable other truths of science, were rationally possible but upon the supposition of an original universe of force such as is that found in ultimate analysis of every molecule of matter; and such as that seen in every reaction of the elements of thermal, photal, electric or magnetic force, and of the atoms, molecules and bodies of matter, and such as is that in levity from the earth's center and in gravity from the earth's atmosphere of the reactions of which about the earth there is that elastic atmosphere of forces through disturbances of which there are messages sent by telephone and telegraph; and in which are formed the non-metallic elements of matter, oxygen, hydrogen, nitrogen and carbon, and of these waters, ammonias and carbonic oxides. And of whose reactions, also, short of those apparent in the non-metallic elements now seen in the earth's atmosphere there is the more attenuated substance lately found as argon, and that still more attenuated substance found by Roentgen and differing from the results of electrical reaction only in being protected from the elements of the earth's atmosphere by the exhausted tube in which the electrical reactions producing them occur.

There has not, however, been the supposition of such reality in force. Or if so, it has not been accepted. Or if it had been

to the extent of accounting for the existence of the earth, plant and animal, it would not have been accepted as the source of man, who insists upon a special cause in purpose and act of a personal intelligence to his own existence. But how or through what means this intelligence has operated in production of man has not been determined. And of the two questions asked by early man, the whence does he come? has not been answered, however sufficient for an answer may have been the grounds.

Nor is there the disposition to accept the equally obvious ground of answer to the question, whither does he go?

## CHAPTER LV.

### Nor Does He Admit that He is to Be but the Man Possible.

To the earth, plant or animal of an universe of reality in force, and as a nature, therefore, of an universe of life there is the potency and promise that each shall be its most and best; and this, simply, whatever else, or more, may come of it. And to man of that nature there were but such promise. But of this he is unconscious. And not only so, but, if conscious of such promise, he would not accept it. To do so, he must be willing to comply with the conditions of his being such man possible; each must take the position he can get in the state and comply with its conditions; and make the most of it. And be proud of it, whether it be that of sovereign, or subject, or husband, or wife, or parent, or child, or master, or slave. And each should be taught what he has to do; and how to do it. And this to children by their parents. And all adult males should desire wives and be willing to incur the labors of sheltering and supporting them in bearing children. And all adult females should desire husbands and be willing to incur the pains and privations of continuing the race; and in this to forego the indepeudence and enjoyments of an unmarried life. And parents should desire children, and children parents; and masters slaves, and slaves masters; and sovereigns subjects, and subjects sovereigns. Individual egoism now dominant must be suppressed and complemented by an ego-altruism such as that, while every individual shall be dedicated to his own best and most, he shall accept that dedication but as it shall consist with the best and most of every other individual of the state. Nor must any race, or class of individuals, assume to be the standard of the human race, or to be vested with the

right and power to force others up, or down, to it. But that they must accept each other as they find them, and concur with them in the ways possible, to a human whole, of the men existing, possible.

And for this they are not willing. And this they do not. It is not important to consider what are the feelings of savage stocks, or barbarous tribes, or states of tribes in castes. But monogamic man in states of families united are the only ones even vaguely considerate of the ends of man on earth. And it is reasonably certain that these are not intent upon becoming the man possible in the most and best man possible. But each is considerate only of how he can best continue his individual existence in his family; and his family in the municipality; and his municipality in the state; and his state in competition with other states. Each is simply egoistic with but that ego-altruism there is in helping others that he may help himself, and without question or concern as to, that this egoism, to the preservation of his individual existence, shall result in the man possible.

It is to this that every people invent a warrant of authority to rule the rest. And that the Jews have their bible, and, to make its warrant good, have made the laws of health religious rites. And that Christians have taken the monogamic utterances of Christ against the polygamy of an earlier world, and intended for the race of man, as the warrant of authority in the sect possessed of power to rule whomsoever is not able to resist it.

It is to this also that all men are equal, and so, therefore, that he possessed of power shall be without the control of others in its exercise; and as equals have the right to share in funds reserved, whether contributors or not. And to this that any one people may missionary others through word, or sword, to become like them.

And to the end that man be not what he should be, but what those in power would have him be, and to the support of that power, is it, that parties are formed to take the state; and to force the people to do not what is best for them, but for those possessed of the state. And to educate the people to do, not that they may have to do, in being most and best, but that which, whether to their most and best or not, is at least to the support of that government, or of the right of the majority possessed of power, to hold it.

It is to be doubted that this is education, or that anything is education not drawing out the faculties of individuals to the works they have to do in supporting themselves to their most and best; or that the monies men are forced to pay for their educa-

tion through the state be not more detrimental than were the same amount expended directly and intentionally, in any other way, to their injury.

And to this end is it not to their own good, or the good of blacks that the whites of the South are made to spend vast sums of money educating negroes. Education being that I have said it is, the negroes before freedom were educated as no people have been. And freed, if let alone, they had been in the way of learning that most necessary to the preservation of their lives under new conditions. Freed among white men, they were without guidance. They could hope to live but by profitable employments, and by such only as should be left open to them by white men. What these were could only be learned in lessons of experience, and certainly could not be learned from the books of white men—to teach them how to be white men and live as such, but not how to live, not as white men, whom they could not become, or in competition with white men, which they could not sustain. Not capable of competition, or miscegenation, or emigration, their hope of life was in complimentary concurrence with white men, the requirements of which they might have learned. And the requirement that the whites of the South shall spend millions yearly in teaching negroes to be and do what they cannot be and do were as injurious, perhaps, as were the requirement that the same amount of money be expended in ending their existence.

And equally injurious is the requisition that the state shall educate its people. Children can learn but from their parents what they can be and do their most and best. Education is the cultivation of faculties to the ends they can best accomplish in sustaining and enlarging human life. That education and the opportunities to its application the parents can give their children as the state cannot. And the requirements, therefore, that the whites of the South shall educate negroes, and states generally their people, is inconsistent with the assumption that man is here to do the work of God in being his most and best to other ends God may have for him as such, but is consistent only with that he is here to execute the will of man himself.

To the same effect is the assumption that the voice of the people is the voice of God. And that who has the power shall have the right to rule. And that men may elect to give place in business to women and so be freed of her support in her office of continuing the race. And that women may elect to take the places, offices and habiliments of men, and so neglect their duty to the race of man. And that parents may be relieved of the onus of children in putting them upon the state. And children

be thus discharged of the obligation of obedience to parents. And that capital have income, and labor wages, from the state—becoming the car for all to ride on but none to pull.

It is thus that man does not want to be and would not be the man possible, simply, as he were if of a nature of an universe of life as is the animal or plant. And he does not accept that he is of such nature, therefore, and is intent on realizing a nature of his own in assumption of a special endowment to that end.

This is doubtless but the expression of his natural egoism inseparable from his existence as a reality of life in nature. The elements of the plant are obviously egoisms each in assertion of itself but controlled in this by its supplementary element in production of the intermediary ego-altruism of both. And of its future life in nature of the animal it is as unconscious as is the animal of its future life in nature of man and as is man of his future life in the nature of the nations of the earth united in the man possible.

I do not reflect on man, therefore, the every of whom is as honest as he knows how to be. And as true to the mission of his life in nature as is the animal or plant; and, so far, and in the right direction, has made the headway possible; but mean merely to say that, while destined to be the man possible at this earth, and to the relations therefore necessary to the most economical use of the largest product of the earth to human life in human nature possible, he is not conscious of such destiny, but with the fidelity of the coral polyp to the preservation of its existence in building up the reef for fruitful lands to rest on, he is in preservation of his individual existence the best he can in production of his state with others to sustain a human world into the civilization of which, as a moral being co-extensive with such physical man, will go the cultured souls of all contributing to build it up.

And so unconscious of his work, he is not able to complete it through his egoism merely. But that even the enlightened egoism of monogamic man must be counteracted by an egoism as potent as itself. That this can consist only in its union with an unequal race in relations of inequality; and that states of such races are portended, therefore, as certainly as that there is man of the nature of an universe of life; while man in working out his destiny is unconscious of the fact, but supposes himself in execution of his own purposes. And thus it is that the two questions, whence? and whither? are as unanswered to man's satistion now as they were at the time when they were first asked.

But this theory of nature of an universe of life and man of

nature gives to the first question, whence? the answer that man, with earth, plant and animal, is from an universe of the finite word of God in force; and to the next, whither? that he goes by the ways possible into the man at this earth possible, and this the way of unequal races in relation of inequality.

## CHAPTER LVI.

### Unequal Races in Inequality Necessary to the Man Possible.

Assuming it to be the destiny of man at this earth to be the man possible; and that monogamic man is now the foremost of the race, but is unable to become the man possible from the brief existence of his state from its becoming subject to the volition of its individuals unable to restrain themselves from its application to their uses in which there is the dissolution of the state, the question arises whether there can be any variation in monogamic man to fit him for the man possible. And as the evil is in that his state, however it may start, must end in a republic, the government of which is by appointment of its individuals, the question is, whether there may not be a monogamic state under a government not so subject to popular volition? And it is proposed that there can be such state; that there are unequal human races, or races so different, at least, as they are unequally able to subsist upon the same conditions, that these can unite upon terms consistent with their betterment; but only on the terms that they shall participate in the direction of the state in the proportions of their respective capabilities.

In this way the unequal races become co-ordinate parts of the state as the head and body are the co-ordinate parts of the individual. And as there is no reason why the government of the body should not be in the head of the individual man, there were no reason why the government of such state should not be in its superior race.

And that the proposition be the better understood, I may as well say that the unequal races intruded are the whites of Europe and the blacks of Africa. That these can unite in a state of man to the betterment of both and in production of a more abundant and better man than is possible of either race alone. And of a man, if not the man possible, at least in the way of becoming such. And that this is not only of the theory of man of the

nature of an universe of life, but of the experiences of such unions on this continent, and particularly of that existing lately in these southern states.

And it will be contended that while every monogamic state, however it may start under a hereditary government, must verge to a government by appointment of its individuals, which must apply the state to the uses of the individuals appointing it, resulting in the dissolution and extinction of the state, there is yet the possibility of a state of unequal races united so as that its government will not be by appointment of individuals to use it to their interests, but be permanently in the superior race for the good of both, as is that in the head on the human body, and in parents over children, and in masters over apprentices. And that such was the government of that state of unequaled races lately existing in the southern section of this republic.

The individual man is egoistic, as is every individual being of the universe to each in his being is the mandate that he be his most and best, each can resist the proclivities of his individual interests not more than of moral motion he can resist his gravitation; and can deny himself the indulgence of his interests in the subject state, not more than the larval insect its appetite upon the body of the lifeless animal. But let the animal have life to meet the wants of its dependent members, then is there egoism to counteract egoism and a superior egoism of both in supplement and support of each other to the animal possible of both. And such is the state of such unequal races. Both are individual egoisms in preservation of their individual existences, but so reciprocally related as that the one in continuing its existence continues the existence of the other. Such was the union lately existing at the South. And whatever else may be said of it, it was in the way of man possible as is no unilateral mode of men—not even the monogamic now the most advanced, for the reasons stated. And so surely as there is man of the nature of an universe of life, and him destined to the man possible at this earth, so surely at some time, however distant, there will be such man of such races continuously about the earth.

It may be said that there are not unequal races; but there are races unequally capable of safety and subsistence. It may be said that as such they cannot unite. But they can, as laborers, and directors in a building, or soldiers and officers in an army, or as man and woman in the family. These were originally as apart as are the human races, and as naturally averse to the requisitions of such unions. But when they became necessary to these objects and the conditions of existence to the

parties, the requisitions were complied with. And when it shall come to be the condition of existence to races that they shall unite, they will unite. Not at first, perhaps; to ease from the throes of a proletariate democracy European states are invading Africa and must enslave or exterminate her negroes. And it is quite possible that the democracy may elect to exterminate them—however, this may be done, not by expressed determination, but by positions taken inconsistent with the existence of the negro. But this, while it may ease, will not relieve the European states of their proletariate troubles. And ultimately monogamic states must find relief in unions of races in which no such democracy can exist. And that there can be such unions is in the fact that there were such unions in the West India Islands and in states of North and South America, and conspicuously in the southern section of these United States.

It may be said that this has fallen. But, it must be admitted, from no inherent evil. The masters at the South were contented with it, as is seen in their holding to it under the conditions; and so, also, were the slaves in their submission to it without resistance; and in their increase in little more than one hundred years from 500,000 originally imported to near 8,000,000. And so were the people of the North; they were richer of the products of the South they commerced and manufactured than if they had owned the lands and slaves that made them; and they enjoyed an importance abroad and a peace and order at home they would not without their association with the South, and which they do not now enjoy; and they would have resisted to the extent of war any interference with slavery at the South by a foreign power; and would have prohibited the emancipation of their slaves by the people of the South themselves if it had not been that only through the votes of slaves emancipated, the party at the North, achieving victory, could sustain itself in power.

And, not tried upon its merits, it was not condemned. Nor condemned, was it unable to sustain itself.

There was, in fact, nothing condemned but the effort of the South to leave the confederacy, profitable to the North. The confederacy was upon the principle that the majority should rule. The North, allowed to receive her population from Europe or elsewhere, and the South not allowed to receive her peculiar population from Africa, whence only it could come—the North acquired the requisite majority. Through this it was possessed of the government, and through this of the fortunes of the confederacy; and it was not averse to that slavery of the S th which marked the line of difference between the sections; p

was quite averse to the withdrawal of the South from the power over her the North had thus acquired.

The North in such majority in which was government, were as bound to exercise it as is the individual to fall, his props from under him. There is in the theory advanced, and in the facts of experience an universal law of gravitation under which at this earth populations flow, as fluids, to the means of subsistence; and majorities to the government of minorities unable to resist them. And the North, so possessed of power to govern the state, was as bound to use it on the state as is the stream to break its dam not strong enough to hold it; and it were as sensible to objurgate the stream as to objurgate the North. It might have been well that both had seen the situation. And that the government was irrevocably with the North, but that this did not menace the peculiar civilization of the South, but would conserve it so long, at least, as the North itself should not be subject to its proletariate.

If this had been seen, the sufferings of the war might have been avoided; the union of unequal races at the South preserved; and a republic of reciprocal and complementary republics existing now. And that they were not, is not conclusive of any weakness in the case of slavery, or of its condemnation, or of more than that it was an anacronism, or a "come before its time."

Nor as such, realized by the South, had it been unable to sustain itself. Without the North, or if there had been no union, there is every reason that the South had stood perpetually in possession of her slaves and of the admirable civilization resulting. There were, as I have said, peace, order, plenty, contentment and progress, rarely, if ever, seen before. There was a larger reserve of life to a continually larger life for reason of its instant reinvestments. In states of a single race there are reserves of the means of life, not instantly consumed, and vested in properties the exchangeable values of which are indicated in tokens termed money; but for reinvestments of which in human life there are not always opportunities and in the reinvestments of which there is necessary waste.

But of the reserves of such unions of unequal races there is no such intermediary subject of investment. The surplus life of the slave is vested in a master, the surplus life of the master in the slave. The surplus life of the plantation was as instantly vested in its products, its products as instantly in those supported by them. There was but little money needed and but little used; few exchanges were necessary. And, life money, and nature its investment, there has not been and cannot be a mode of investment so suited to the man possible. And this had been able to

sustain itself. And if it had lived until the whites had been willing to give it up, or been obliged by any intrinsic evil to give it up; or if it had lived until it had been better for the negroes that it be given up, or until they were able to throw it off, or until men of foreign states had intervened to suppress its inhumanities, or to hold it as a conquered province, it is reasonably certain it had lived for ever.

Nor, so challenging its fate in its effort to escape the North, had it failed. Of its cotton crop it could have had $200,000,000 to its credit in Europe when there was the invasion of Virginia; of its slaves, inured to discipline under the authority of masters, it could have had 200,000 in the field before that time. With these it could have anticipated invasion and taken Washington and the government, as, without this, did the North. And, wanting nothing of the North but to be let alone, that had been cheerfully accorded.

But even without this, and when from a misconception of the situation the South had drifted into the war, if she had submitted to even the Republican party at the North the terms of peace, the one of them had not been that her slaves should be emancipated, or that any material limitation be put upon the power of masters over them.

And when, as a military necessity, the North had declared emancipation, and had taken negroes to her armies; and the whites of the South had been broken and hopeless, and Lincoln had been murdered, it would not have been required that slavery be abandoned. Fines and forfeitures might have been imposed, and estates, including slaves, might have been transferred to northern men who had fought for them, but the system of the South had not been so broken but of the culminating madness of the South herself.

By the death of Mr. Lincoln, Mr. Johnson had become President, who, though a Democrat, was willing for a continuation of his office through another term; and who seemed to see the opportunity, not, only, of this, but of a larger power than as a president by accident he could hope to exercise. The men of the South were alarmed and anxious. To them it was proposed that they anticipate the demands of the Republican party in the liberation of their slaves, seek re-admission to the Union, to be granted by the Democrats, uniting with whom they could overturn the Republicans, possess the government and administer to them the results of victories they had themselves achieved. But to this the Republicans, possessed of congress and the army, did not submit. They took the political power of the conquered

South from the negroes freed, not getting it, as they would gladly have got it, from the whites; so that, at last, the abolition of slavery was not from any evil in itself or any repugnance to it, as an existing fact, by peoples north, or south, or elsewhere, but from the fatal error of the South in her effort to submit to other than her conqueror.

Not only did not the Republican party require the abolition of slavery, but was averse to it. It thus lost its cry against slavery, in which was its political capital. It could no longer inflame the zeal of its partizans in their raid upon the state by pointing to the spectacle of brothers held in bondage. For the free negroes of the South, unable to represent the South in congress, it had no use. The South with her slaves had been more profitable than without them. There is now a proletariate North demanding a plunder the Republicans cannot give them. It menaces capital. Factories not only unprofitable, but insecure, seek location and protection at the South, where the negro, however in other ways objectionable, excludes to the extent of his existence their more threatening enemy. And men of millions hide them in invisible investments. And it is not clear, therefore, that the Republican North has not lost more than have the whites of the South from the liberation of the slaves; so far, at least, as the gains or losses of a people are to be computed in the means to the continuation of their existences.

If money alone is to be considered in the hands of an existing generation without reference to the uses to be made of it in sustaining the generations coming after, the North has profited greatly. There are millionaires now to the thousandaires before the war. But to human life, alone to be considered, unwanted money is of detriment; and the North and Prussia are poorer of their monies taken from their recent wars than is the South or France.

But however this may be, or whether the North gained or lost by the war, or was really interested in the liberation of slaves at the South, or would have made the condition of her restoration to the Union, or whether the South, if she had never entered the confederacy, would have been friended, or unfriended, by foreign states, or under hostilities had been compelled to abandon slavery, the fact remains that such union of races in inequality such as that the weaker is without political rights, is the condition of a monogamic republic, a necessary step from monogamic man to the man possible. And it is as necessary that there ultimately be such man as that there be nature of an universe of life. There is nature of an universe of life but as at this earth there be the

man possible; and there is the man possible at this earth but as there be an universe of life. But there is nature of an universe of life if there be reality in force, and reality in force if there be force. And there is man, therefore, of an universe of infinite being finite in force, and into the man possible at this earth if, only, there be reality, force, life, nature, or man in being, or in being possible.

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